

# Peabody Terrace Façade Project – PCB Remediation Plan Modification

## Buildings D & Z

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Project No. 210980.00  
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February 2012

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## 1. INTRODUCTION

Woodard & Curran, Inc. (W&C) has prepared this Remediation Plan Modification (Plan) request on behalf of the President and Fellows of Harvard College (Harvard) in accordance with Conditions 1a and 17 of the United States Environmental Protection Agency's (EPA) April 15, 2010 Risk-Based PCB Cleanup and Disposal Approval under 40 CFR 761.61(c) and 761.79(h) (the Approval) for the Peabody Terrace Housing Complex (the Site) located at 900 Memorial Drive in Cambridge, Massachusetts. This Plan details the proposed remedial approach for polychlorinated biphenyl (PCB) bulk product waste (original caulking) and PCB remediation waste (replacement caulking and impacted building materials) present at Buildings D and Z. This Plan represents the eighth modification request to the Notification<sup>1</sup> (Modification No. 8).

As discussed in previous submittals, an extensive exterior façade repair and rehabilitation project is currently underway at the complex with work at Buildings A, B, C, and X beginning in 2010 (Phase I), Buildings E, F, and Y beginning in 2011 (Phase II), and Buildings D and Z beginning in 2012 (Phase III). The associated PCB remediation work is being incorporated into this overall schedule. This Plan has been prepared to present the results of the PCB characterization activities performed and the proposed remedial approach for Buildings D and Z, and is being submitted to EPA concurrently with a Status Report prepared for the Phase I & II building remediation work completed through December 31, 2011 (the "Phase I & II Status Report").

### 1.1 SITE DESCRIPTION

The Peabody Terrace housing facility, originally constructed in 1964, consists of three high-rise towers (Buildings X, Y, and Z; 22 stories each) and six lower rise buildings (Buildings A, B, C, D, E, and F; 3-7 stories each). The buildings are currently used for Harvard graduate student housing and contain a total of 492 apartments. Peabody Terrace also features several on-site childcare facilities, laundry rooms, common rooms, and outdoor play areas.

The Peabody Terrace facility is bordered by Banks Street to the east, by Akron Street to the south, by Memorial Drive to the west, and by the Corporal Burns Playground and Flagg Street to the north. The Charles River is located approximately 200 feet west of the Site opposite Memorial Drive. A Site Locus map is provided as

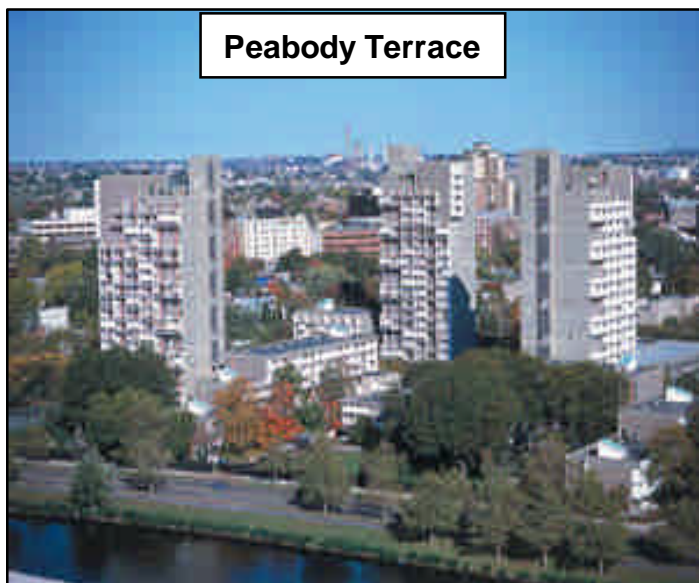


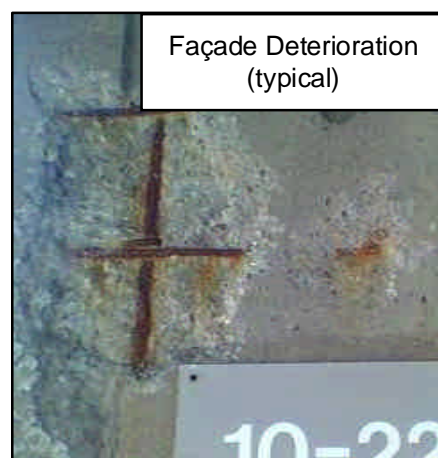
Figure 1-1. Surrounding ground surfaces are generally flat in elevation and are either covered with asphalt pavement, bricks, concrete, landscaped areas (grass, wood chips, stone, and/or shrubbery), or other surfaces associated with the playground areas (refer to the Site Plan, Figure 1-2).

<sup>1</sup> The Notification consists of the information submitted by Woodard & Curran to satisfy the requirements under 40 CFR 761.61(c), 761.62, and 761.79(h), and subsequent Modifications as summarized in Section 1.4 of this Plan.



## 1.2 SITE BACKGROUND

At the onset of the façade rehabilitation project, certain portions of the buildings' exterior concrete façades and balconies were in various stages of disrepair, including cracking, spalling, and other deteriorating conditions given the age of the buildings and other contributing factors (e.g., construction details). To address these conditions, Harvard planned an extensive exterior façade repair and rehabilitation project, which included replacing damaged concrete, removing and replacing exterior building caulking, and applying an exterior façade waterproofing system. The implementation of the exterior façade repair project was segmented into three, one-year construction phases due to the number of buildings involved. As the planning stages for this project progressed, the potential for the exterior caulking to contain PCBs given the date of building construction was assessed and reviewed.



Given the uncertainty regarding PCBs in the caulking and the potential migration on to the building exterior façade if PCBs were present, one building was selected for initial and extensive characterization testing. This building, Building A, was used as the model for developing an understanding of the nature and extent of PCBs on the other buildings. Given the building information and that the caulking was planned for removal, the exterior caulking was tested for PCBs as well as other potential hazardous materials (asbestos) in the Spring of 2009.

The initial Building A results indicated that percent level concentrations of PCBs (up to 139,000 parts per million [ppm] total PCBs) were detected in samples of original exterior caulking. Site-wide characterization samples were then collected and evaluated at exterior locations with higher exposure potential and likely PCB transport pathways (i.e., designated play areas and lawns adjacent to building façades), on-site childcares and interior common rooms, apartment unit interiors, and exterior patios and balconies. After confirming that conditions were stable in these high exposure potential areas, additional Building A characterization sampling activities were conducted through January 2010 in support of developing a remediation plan that could be implemented on schedule with the original façade renovation project. Subsequent characterization sampling at the remaining Site buildings occurred in advance of the remediation plan modifications and submittals prior to each phase of work.

## 1.3 CONCEPTUAL SITE MODEL

Samples collected from original exterior building caulking indicated that percent level concentrations of PCBs were present in this material. Lower concentrations of PCBs in exceedance of the unrestricted use cleanup level were also detected in adjacent building concrete (vertical façades and horizontal balcony surfaces), unpaved adjacent ground surfaces (landscaped areas and soil), and post-1980 replacement caulking (interior and exterior caulking) via various migration and transport pathways. Subsequent PCB characterization data collected from the other site buildings was consistent with the previous data and the initial Building A model was generally applicable to Buildings B, C, X, E, F, Y, D, and Z. Some exceptions to this model are associated with certain exterior construction features unique to the high-rise buildings (Buildings X, Y, and Z) as well as certain interior common spaces and childcare facilities located within Buildings D, E, and F.

## 1.4 SUBMITTALS AND PROJECT TIMELINE

Since submitting the PCB Remediation Plan for Building A on February 16, 2010, addendums and modifications for continuing remediation activities have been submitted to EPA for review and approval. As of the date of this

submittal, the Notification consists of the following information submitted on behalf of Harvard to satisfy the notification requirements under 40 CFR 761.61(c), 761.62, and 761.79(h):

- Buildings B, C, X Plan (April 6, 2010) and e-mail clarification (April 9, 2010);
- EPA Approval of the proposed remediation of Buildings A, B, C, and X (April 15, 2010);
- Supporting information for Building A, B, C, X work: acknowledgements and certifications (April 29, 2010), contractor workplan (May 13, 2010), and responses to contractor workplan comments (June 2, 2010);
- EPA Acknowledgement of Contractor Workplan with modifications (June 4, 2010);
- Work initiates at Buildings A, B, C, and X (June 17, 2010);
- Modification Request No. 1 (July 20, 2010) – modified sequence of work with regards to powerwashing;
- EPA Approval of Modification Request No. 1 (July 22, 2010);
- Modification Request No. 2 (November 11, 2010 with additional information November 18, 2010) – Soil Remediation Plan, Buildings A, B, and C;
- Modification Request No. 3 (November 11, 2010 with revision on November 18, 2010) – modified remedial approach for patio concrete encapsulation;
- EPA Approval of Modification Request Nos. 2 and 3 (December 14, 2010);
- Soil excavation initiates at Buildings A, B, and C (February 23, 2011);
- Modification Request No. 4 (February 16, 2011 with revisions on April 18, 2011) – Buildings E, F, Y PCB Remediation Plan and PCB Remediation Status Report – Buildings A, B, C, and X (February 16, 2011);
- EPA Approval of Modification Request No. 4 (May 3, 2011);
- Modification Request No. 5 (March 30, 2011) – modified remedial approach for root balls of well-established trees within soil excavation areas;
- Exterior façade work initiates at Buildings E, F, and Y (April 19, 2011);
- Soil excavation work completed at Buildings A, B, and C (last waste shipment on June 13, 2011);
- Modification Request No. 6 (September 21, 2011) – Soil Remediation Plan, Buildings D, E, F, X, Y, and Z;
- Modification Request No. 7 – substituted a new product for application of façade coatings – Buildings E, F, Y, D, and Z (November 4, 2011);
- EPA Approval of Modification Request No. 6 (December 8, 2011);
- Soil excavation work initiates at Buildings D, Z, and X (December 27, 2011);
- Modification Request No. 8 – this Plan.

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## **1.5 PLAN ORGANIZATION**

This Remediation Plan is organized into the following sections:

### **Section 2: Site Characterization**

In support of this plan, characterization sampling activities were conducted at Buildings D and Z. This section of the plan outlines the nature and extent of PCBs in each media as supported by this characterization data.

### **Section 3: Remediation Plan**

The remediation plan section includes a discussion of the remedial objectives and cleanup levels, the remediation approach for each PCB-affected media, a proposed sequence of activities, and a verification sampling approach. This remediation plan has been prepared according to the requirements of 40 CFR 761 for a risk-based disposal request for the cleanup, disposal, and/or encapsulation of PCB remediation waste.

### **Section 4: Communications**

This section describes the communications between Harvard and the parties at Peabody Terrace affected by current conditions and upcoming work, including residents, employees, and contractors.

### **Section 5: Schedule**

This section outlines a general sequence of the proposed exterior remediation activities.

## 2. SITE CHARACTERIZATION – BUILDINGS D & Z

This section provides a discussion of the nature and extent of PCB-affected media encountered at Buildings D and Z. The PCB-affected media are identified and described with cross-references to figures and analytical data summary tables. Photographs of each façade of Buildings D and Z are provided in Appendix A.

### 2.1 CHARACTERIZATION OVERVIEW

In December 2011 and January 2012, Woodard & Curran sampled interior and exterior media at Buildings D and Z to gather characterization data in support of this Plan. Samples were collected for PCB analysis from interior and exterior caulking, exterior concrete, interior surfaces, and indoor air. Summaries of the analytical results are provided in Tables 2-1 through 2-5 as noted in each section below, and figures depicting the exterior characterization sample locations are included as Figure 2-1 (Building Z North and West), Figure 2-2 (Building Z South and East), and Figure 2-3 (Building D).

#### 2.1.1 Sample Collection Methods

Characterization of porous surfaces was performed in accordance with the EPA Region 1 *Standard Operating Procedure for Sampling Porous Surfaces for Polychlorinated Biphenyls (PCBs) Revision 4 (May 2011)*. Caulking samples were collected by cutting and scraping the caulking from the joint with hand tools. If adjacent media (e.g., concrete or a foam backer rod) was inadvertently removed in the process of sample collection, this media was physically removed from the caulking before the sample was placed in its sample container. Concrete sampling on horizontal and vertical surfaces (panels, columns, or slabs) was performed with a hammer drill. Holes were drilled into the concrete to a depth of 0.5 inches over an area sufficient to achieve the required sample volume. After the holes were made, the bulk material was scooped from the surface using hand tools and placed in the appropriate sample containers.

Wipe samples were collected in accordance with the standard wipe test as defined in 40 CFR 761.123. All samples were collected from the prescribed 100 cm<sup>2</sup> area using a laboratory-prepared gauze pad. While the standard wipe test prescribes the use of hexane-preserved gauze pads for collecting wipe samples from non-porous surfaces, some samples collected from interior porous surfaces (e.g., caulking) were also collected using saline-preserved wipes in addition to the standard hexane wipes as noted in the data summary tables.

Indoor air and background outdoor air samples were collected for PCB analysis in accordance with USEPA Compendium Method TO-10A guidelines. A low volume polyurethane foam (PUF) cartridge was connected to a low-flow personal air pump with flexible tubing positioned between 3 and 5 feet above the floor or ground surface. To achieve the desired minimum laboratory reporting limit of 5 nanograms (ng) per cartridge, samples were collected at a flow rate of 2.5 liters per minute for two hours (300 liter sample volume). At the end of the required sample interval, pumps were shut off and the labeled cartridges were wrapped in aluminum foil and placed on ice for delivery to the analytical laboratory.

Where samples were collected with non-dedicated tools, the sampling equipment was decontaminated between each sampling location by scrubbing with a biodegradable soap and water solution (Alconox) followed by a water rinse. A new pair of clean Nitrile gloves was used at each location where gloves came into contact with sample media.

## 2.1.2 Laboratory Analysis

All bulk and surface wipe samples were logged on standard chain of custody (COC) forms and stored on ice for delivery to Analytics Environmental Laboratory of Portsmouth, New Hampshire. Samples were extracted using USEPA Method 3540C (Soxhlet Extraction) and analyzed for PCBs using USEPA Method 8082.

All indoor and outdoor air samples were logged on standard COC forms and stored on ice for delivery to Alpha Analytical Laboratory in Mansfield, Massachusetts. Air samples were extracted and analyzed in accordance with USEPA Compendium Method TO-10A guidelines for laboratory analysis of PCB homologs in air samples.

The complete laboratory analytical reports for the characterization data are provided in Appendix B.

## 2.2 BUILDING Z EXTERIOR

Building Z is a 22-story high rise similar in construction to Buildings X and Y. Building Z data relevant to this project is as follows:

- *Building square footage (approximate footprint):* 2,800 ft<sup>2</sup>
- *Building gross square footage (approximate):* 70,400 ft<sup>2</sup>
- *Number of residential apartment units:* 82
- *Exterior caulking linear footage:* 29,435 linear feet (l.f.), including:
  - 19,700 l.f. panel / column joints (caulking original to building construction)
  - 9,735 l.f. window / door joints (post 1980's replacement caulking not original to building construction)
- *Number of balconies:* 42 single-width (approx. 50 ft<sup>2</sup> each) and 24 double-width (approx. 100 ft<sup>2</sup> each) for a total area of approximately 4,500 ft<sup>2</sup> of balconies (61 on the west façade, and 5 on the north façade)
- *Number of doorsteps:* 2 (approximately 16 ft<sup>2</sup> and 40 ft<sup>2</sup>, respectively)

The characterization data presented below is generally consistent with the conceptual site model previously developed for high rise Buildings X and Y. A table summarizing the Building Z data is provided as Table 2-1.

### 2.2.1 Caulking

Characterization samples were collected from each of four exterior joint types present at Building Z – one panel / column joint, one window / door joint, one balcony cove joint, and one doorstep cove joint. Similar to previous Site buildings, three of the four joint types were observed to contain caulking apparently original to the building construction, with PCBs at levels indicative of a PCB bulk product waste: the panel/column caulking (6,010 ppm), the balcony cove joint caulking (967 ppm), and the doorstep cove joint caulking (283 ppm). Also similar to previous Site buildings, the window / door joints were observed to contain a white replacement caulking, and PCBs were reported at 44.0 ppm in this sample; caulking at this joint type is considered a PCB remediation waste.

## 2.2.2 Concrete – Façade and Balconies

Concrete samples were collected from one balcony deck surface and one concrete doorstep surface at Building Z to confirm PCB migration patterns observed during previous characterization sampling. The balcony concrete sample was collected 4 inches from the caulked joint and was reported with PCBs at 26.5 ppm, confirming that the concrete had been impacted by PCBs from the caulking and would require management as a PCB remediation waste. The doorstep concrete sample was collected at a distance of 1 foot from the caulked joint, and was reported with PCBs at 0.156 ppm.

Concrete samples were collected from exterior façades of Building Z to confirm the PCB migration patterns observed at the other buildings, where decreasing levels of PCBs were observed with increasing distance from the caulking. Samples were collected from locations where data from previous Site buildings had indicated that PCBs would likely be present at concentrations  $\leq 1$  ppm due to the distance from caulked joints. Each of these three samples was reported with detectable concentrations of PCBs  $< 1$  ppm and ranging from 0.091 to 0.197 ppm, confirming similar conditions as observed on the other buildings.

Samples were not collected from concrete in direct contact with caulking (i.e., within joints) as this migration pathway has been confirmed at previous site buildings, and direct contact concrete is assumed to contain PCBs  $> 1$  ppm.

## 2.3 BUILDING D EXTERIOR

In general, Building D is similar in construction to other low-rise buildings at the Peabody Terrace complex. Building D ranges in height from 3 to 7 stories, and its layout is most similar to Building E. A pedestrian underpass runs through the building at ground level between lobby entrances 5 and 6 as shown on the Site Plan, and two parallel bridges / catwalks connect the Building D interior to the Building Z interior on the fourth and sixth floors.

Building D data relevant to this project is as follows:

- *Building square footage (approximate footprint):* 9,800 ft<sup>2</sup>
- *Building gross square footage (approximate):* 47,150 ft<sup>2</sup>
- *Number of residential apartment units:* 64
- *Exterior caulking linear footage:* 17,300 l.f., including:
  - 9,600 l.f. panel/column joints (post 1980's replacement caulking not original to building construction)
  - 7,700 l.f. window/door joints (post 1980's replacement caulking not original to building construction)
- *Number of balconies:* 33 single-width (approx. 50 ft<sup>2</sup> each) and 22 double-width (approx. 100 ft<sup>2</sup> each) for a total area of approximately 3,850 ft<sup>2</sup> (53 on the south façade, and 2 on the west façade).
- *Number of doorsteps:* 0

The entire first floor of Building D is used for non-residential purposes as described further in Section 2.5 of this Plan; as a result, there are no ground-level patios or doorsteps present at Building D. As discussed in the following sections, Building D conditions are somewhat distinct from other Site buildings due to past renovation work performed at this building and the presence of the PTCC rooms and the complex's management offices on the first floor. Characterization data associated with Building D is presented in Table 2-2.

### **2.3.1 Caulking**

Of the four joint types containing caulking at most Site buildings (panel / column joints, window / door joints, balcony cove joints, and patio / doorstep cove joints), only three of these joint types are present at Building D due to the non-residential use of the first floor and absence of ground level patios or doorsteps. Of the three joint types present at the building, two types were sampled for characterization purposes in support of this Plan. Building D panel / column joint and window / door joint data is presented below. Additional discussion on the Building D balcony joints is provided in Section 2.3.3.

Building D panel / column joints and window / door joints have both been subject to past renovation work which included the removal and replacement of the exterior caulking original to building construction. As a result, these joint types do not contain caulking that would be considered PCB bulk product waste upon removal, but rather contain replacement caulking that could be considered PCB remediation waste upon removal.

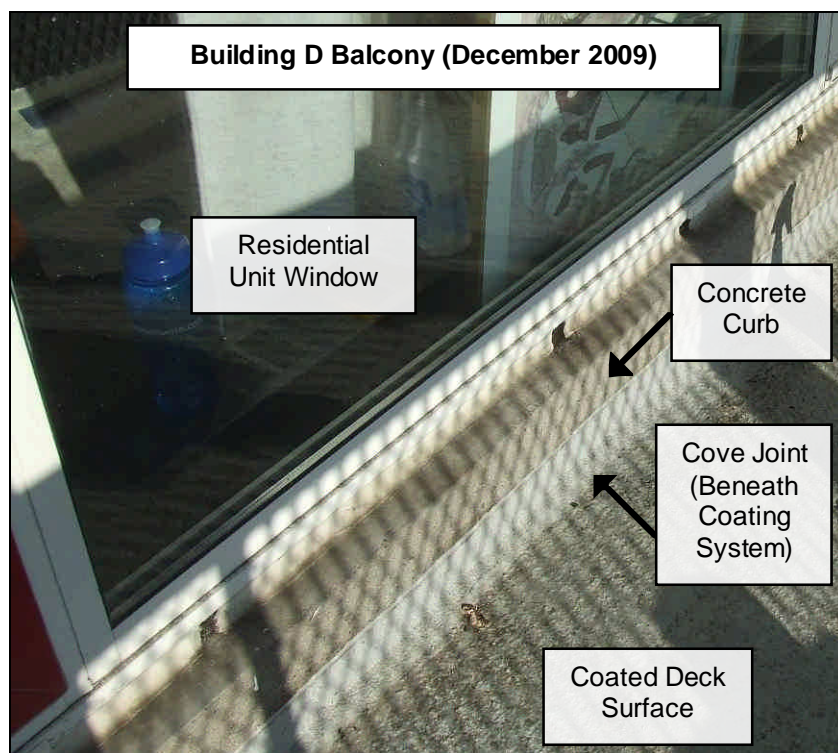
In December 2011 and January 2012, bulk caulking characterization samples were collected from Building D panel / column joints (5 samples) and window / door joints (5 samples) on each façade of the building. PCBs were reported at concentrations ranging from 60.8 ppm to 96.6 ppm in the panel / column joint caulking (average result of 79 ppm) and at concentrations ranging from 0.930 ppm to 256 ppm in the window / door caulking (average result of 74 ppm). These concentrations are similar to those detected in other replacement caulking at the complex.

### **2.3.2 Façade Concrete**

One concrete sample was collected from the exterior façade of Building D to confirm the PCB migration patterns observed at the other buildings, where decreasing levels of PCBs were observed with increasing distance from the caulking. The sample was collected at a lateral distance of 6 inches from a caulked joint, a distance where data from previous site buildings had indicated that PCBs would likely be present at concentrations  $\leq 1$  ppm due to the distance from caulked joints. The sample was reported with detectable concentrations of PCBs at 0.288 ppm. Samples were not collected from concrete in direct contact with caulking (i.e., within joints) as this migration pathway has been confirmed at previous site buildings, and direct contact concrete is assumed to contain PCBs  $> 1$  ppm.

### **2.3.3 Balconies**

The Building D balconies are each currently coated with a polyurethane weatherproofing coating system (BASF Sonoguard), which was applied to the balcony surfaces in 2007. The project's design engineering and architect team have indicated that this previously applied coating is in excellent condition and does not need to be replaced as part of this façade renovation work. As such, the balcony restoration component of the work is not part of the Building D façade renovation project. A photo of a typical Building D balcony surface is provided below.



Due to the current balcony coating configuration, bulk characterization samples were not collected from the Building D balconies. Instead, surface wipe samples were collected from the encapsulated surface of the coated decks and the caulked cove joints in order to determine whether the existing coating system currently meets PCB remediation objectives (i.e., PCB concentrations  $\leq 1 \text{ ug}/100\text{cm}^2$  at the encapsulated surface), as the existing coating system currently meets the overall façade renovation and weatherproofing project objectives.

Surface wipe samples were collected at a minimum frequency of one sample per ten balconies for consistency with the approved sampling frequency during Phase II building work. As presented on Table 2-2, the results of the eight balcony deck surface wipe samples were reported as non-detect for PCBs, as PCBs were not detected above the laboratory's minimum reporting limit of  $0.5 \text{ ug}/100\text{cm}^2$ . The results of the seven balcony cove joint surface wipe results were reported as non-detect for PCBs in three samples ( $< 0.5 \text{ ug}/100\text{cm}^2$ ), with PCBs  $\leq 1 \text{ ug}/100\text{cm}^2$  in two samples, and at concentrations of 4.5 and  $16.2 \text{ ug}/100\text{cm}^2$  in two samples. Based on these results, additional work (i.e., coatings) will be applied to the cove joint portions of the balconies (see Section 3).

## 2.4 BUILDING D AND Z RESIDENTIAL UNIT INTERIORS

This section includes a description of the samples collected from Building D and Z media within residential units, including caulking, adjacent surfaces, and indoor air. Given accessibility limitations into occupied units, the samples were collected from one unit in each building (Unit 1-21, a one-bedroom in Building Z; and, Unit 6-32, a two-bedroom in Building D).

In general, the interior construction and caulking materials observed at Buildings D and Z were similar to the interior construction materials observed at other Site buildings. While the interior floor plans vary from unit to unit, the building components most relevant to this investigation (i.e., the windows and doors) were of similar construction to the analogous components in other buildings.



### **2.4.1 Interior Caulking**

Similar to the other buildings, Buildings D and Z interior residential unit caulking consists of an intact bead of white post 1980 replacement caulking around the perimeter of the metal window and door frames. Only doors leading to the outdoors (balcony or patio doors) contain a perimeter caulking bead; interior doors leading to hallways do not contain caulking at the door frame. The caulking seals the window and door frames either to an adjacent concrete wall (if the frame is at the corner of a room), or to a metal edge cap over the corner of a gypsum wallboard (if the frame is not positioned adjacent to a concrete column). The smallest units contain one stand-alone window and one larger window and door panel for an estimated 56 linear feet of interior caulking. The largest units contain three standalone windows and one larger window and door panel for an estimated 100 linear feet of interior caulking. There are also some units between the smallest and largest sizes with a total interior caulking volume that falls within the 56 - 100 linear foot range.

In each of the units sampled, one living room door/window joint was selected for bulk caulking sample collection. In addition, one saline wipe sample and one hexane wipe sample was collected from the same area at each selected joint. The interior construction of the joint was inspected after removing each section of caulking, and the construction was observed to be similar to the interior joints at other buildings. No unique interior caulking materials were observed in any of the units sampled.

The results of the bulk caulking samples were reported with PCBs at 235 ppm (Building D) and 498 ppm (Building Z). The results of the hexane wipe samples collected from the same joints were reported with PCBs at 1.6  $\mu\text{g}/100\text{cm}^2$  (Building Z) and 9.2  $\mu\text{g}/100\text{cm}^2$  (Building D). The results of the saline wipe samples collected from the same joints were reported as non-detect for PCBs at the Building Z sample location ( $< 0.5 \mu\text{g}/100\text{cm}^2$ ), and were not reported by the laboratory at the Building D location due to a laboratory error during sample extraction. This data is summarized in Table 2-3.

The interior bulk caulking results are within the range of previously reported values (18.9 ppm [Building A, Unit 22-11] to 525 ppm [Building X, Unit 11-1302]). The hexane and saline wipe results were in the range of previous wipe samples from other Site buildings.

### **2.4.2 Interior Adjacent Surfaces**

Three surface wipe samples were collected from each apartment unit to assess interior surfaces adjacent to caulking, including walls, window frames, and floors. Sample distribution was biased to assess locations nearest to interior caulked window or door joints. Surface wipe samples were collected from accessible surfaces using a hexane-saturated wipe over a 100  $\text{cm}^2$  sample area.

The results of the wipe samples collected from the adjacent window frames and floor surfaces in both units were reported as non-detect for PCBs ( $< 0.5 \mu\text{g}/100\text{cm}^2$ ). The results of the wipe samples collected from adjacent wall surfaces were reported at 0.8  $\mu\text{g}/100\text{cm}^2$  (Building D) and 2.5  $\mu\text{g}/100\text{cm}^2$  (Building Z). These wipe sample results are consistent with the results reported for other Site buildings, as adjacent surface wipe results are often reported as non-detect for PCBs, but have previously been reported at detectable concentrations ranging up to 2.7  $\mu\text{g}/100\text{cm}^2$  (floor), 3.2  $\mu\text{g}/100\text{cm}^2$  (wall), and 13.9  $\mu\text{g}/100\text{cm}^2$  (balcony door frame). The Building D and Z data is summarized in Table 2-3.

### 2.4.3 Indoor Air

Indoor air samples were collected for PCB analysis from one Building D unit and one Building Z unit in January 2012. In addition, one ambient outdoor air sample was collected from the courtyard west of Building E for background comparison to indoor air concentrations. These results are summarized in Table 2-4.

Analytical results were reported with total PCB homologs at < 10 nanograms per cartridge in the outdoor air sample and the sample from the Building Z Unit 1-21, as PCBs were not reported above the laboratory's minimum detection limit in either sample. The indoor air sample from Building D Unit 6-32 was reported with detectable concentrations of PCBs at 36.5 ng/cartridge. After correcting the sample volume to ambient temperature and pressure per EPA's method TO-10A guidelines, this result translates to 124.5 ng/m<sup>3</sup>.

In comparison to the action levels developed for indoor air at the Site, each result was reported below the most stringent action level of 140 ng/m<sup>3</sup> (see Building A Remediation Plan, Appendix A). These results are consistent with the range of values reported for indoor air concentrations at other Site buildings (18 previous indoor air samples; range of representative values reported from non-detect up to 138 ng/m<sup>3</sup>; as documented in the Building E, F, and Y Plan).

## 2.5 BUILDING D FIRST FLOOR INTERIOR

The entire first floor of Building D is used for non-residential purposes, and is occupied by two Peabody Terrace Children's Center (PTCC) childcare facilities, a children's play room available to all tenants, a laundry area, and the facility's management offices.

As of the date of this Plan, characterization activities have not been performed within the laundry area or the facility management office; however, windows in these rooms visually appear either similar to the residential unit interiors (some windows) or the other Building D first floor rooms. Characterization of these interior locations are pending and will be incorporated in the Site's remedial plans, if warranted by the characterization results.

Within the PTCC childcare facilities and Play Room, the construction of the windows and doors at these first floor interior locations is similar to the construction observed in the PTCC facility located in Building F; however, unlike Building F, no concrete to concrete masonry expansion joints were observed at any Building D interior locations. Interior caulking within Building D first floor locations is present at joints between metal window / door frames and concrete masonry walls as well as at metal to metal joints within the frames.

The PTCC facility is a childcare center that operates from 8:15 am to 5:45 pm during weekdays and cares for children between 3 months and 5 years of age. As presented in Table A-2 of Appendix A of the Building A Remediation Plan, wipe samples were collected from interior surfaces within the PTCC childcare areas (coded as "DC01" and "DC02") and the Building D Play Room (coded as "PR01") in September 2009. Surface wipe samples were collected from interior caulking, interior surfaces adjacent to caulking, lower walls, and floors. The data is summarized as follows:

- Window and door caulking: non-detect for PCBs (< 0.5 µg/100cm<sup>2</sup>) in 14 out of 14 samples;
- Adjacent concrete or sheetrock walls: non-detect for PCBs (< 0.5 µg/100cm<sup>2</sup>) in 6 out of 6 samples;
- Adjacent wooden surfaces (benches): non-detect for PCBs (< 0.5 µg/100cm<sup>2</sup>) in 3 out of 3 samples;
- Adjacent metal window frames: non-detect for PCBs (< 0.5 µg/100cm<sup>2</sup>) in 5 out of 5 samples; and
- Adjacent tile floors: non-detect for PCBs (< 0.5 µg/100cm<sup>2</sup>) in 4 out of 5 samples; one tile floor sample reported with PCBs at 3.1 µg/100cm<sup>2</sup> in the Play Room.

Bulk characterization samples were collected from interior caulking present at metal to metal joints (5 samples) and metal to concrete joints (3 samples) associated with PTCC childcare rooms and Play Room window and door joints in December 2011. The analytical results were reported with PCBs below laboratory reporting limits in three metal to metal caulking joint samples (< 0.330 ppm) and at 5.12 ppm and 7.65 ppm in the other two samples. PCBs were reported as non-detect in one metal to concrete caulking joint sample (< 0.198 ppm) and at 7.81 ppm and 22.2 ppm in the other two samples. These results are summarized in Table 2-5.

Although PCBs were detected below 50 ppm, removal of the caulking at joint types where samples were reported with PCBs above 1 ppm (all joint types) will be performed during the 2012 construction activities, as described in Section 3.8.

## **2.6 ADJACENT GROUND SURFACES**

Ground surfaces adjacent to Buildings D and Z generally consist of asphalt pavement, bricks, concrete, or landscaped areas (grass, wood chips, stone, and/or shrubbery). The characterization of ground surfaces adjacent to Buildings D and Z was performed primarily in the summer and fall of 2011. As documented in the Soil Remediation Plan for Buildings D, E, F, X, Y, and Z (Modification No. 6), PCBs above the 1 ppm unrestricted use cleanup level were found in certain soils, asphalt, and brick surfaces adjacent to both buildings.

Of note, three designated outdoor play areas identified as Play Areas 1, 2, and 6 on the Site Plan are located in the vicinity of Buildings D and Z. The initial characterization data collected from these Play Area ground surfaces was presented in Appendix A of the Building A Remediation Plan, Table A-2 (samples coded as "PA01," "PA02," and "PA06"). The bulk media results were reported with PCB concentrations at non-detect levels in play sand (4 samples, each < 0.033 ppm), at detectable concentrations below 1 ppm in Play Area 1 and 2 soils (3 samples, PCBs ranging from 0.117 to 0.310 ppm), and at detectable concentrations ranging from 0.963 to 2.49 ppm in Play Area 6 soils. One bulk sealant sample from an isolated ground surface joint in Play Area 1 was reported with PCBs below the 1 ppm cleanup level at 0.667 ppm.

Consistent with Modification No. 6, all areas surrounding Buildings D and Z with PCB concentrations > 1 ppm are currently being excavated and transported off-site for disposal.

## **2.7 DATA USABILITY ASSESSMENT**

This data quality and data usability assessment has been conducted to review the samples collected in support of Building D and Z characterization activities. Data validation and review was conducted both by W&C and by a third-party validator (Data Check, Inc. of New Durham, New Hampshire). This review included a check of field documentation including sample collection and preservation methods, a check of the laboratory data and documentation, a review of the internal laboratory QA/QC procedures and results including surrogate recoveries, matrix spike (MS) and matrix spike duplicate (MSD) results, blank results, laboratory control standard (LCS) and laboratory control standard duplicate (LCSD) results, and an evaluation of sample holding times, field blank results, and field duplicate results. Copies of Data Check's data validation summaries are provided in Appendix C of this Plan.

Bulk and surface wipe samples were submitted to Analytics Environmental Laboratory of Portsmouth, New Hampshire for extraction by USEPA Method 3540C (Soxhlet Extraction) and analysis for PCBs by USEPA Method 8082. Indoor air samples were submitted to Alpha Analytical Laboratory of Mansfield, Massachusetts for PCB analysis in accordance with USEPA Compendium Method TO-10A guidelines.

Some samples were analyzed at dilutions due to elevated concentrations of PCBs present in the samples and/or due to sample matrix interferences. Elevated quantitation limits are reported in these samples as a result of the dilutions.

Duplicate samples were collected and submitted to the laboratory as part of the field QA/QC procedures at an approximate frequency of 1 per 20 primary samples, for a total of 4 samples associated with the characterization data (one concrete, one caulking, and two wipe samples). The relative percent difference (RPD) between the samples was reviewed to evaluate data precision, and to confirm that the RPD was within the limits allowed by data acceptance criteria (RPD < 50%). In any instances where primary and duplicate samples were reported with an RPD above acceptance criteria, the associated results were qualified as estimated (J) as indicated in the data validation summaries and presented in the data summary tables.

The relative percent difference between the column results for all detected PCBs were reviewed to determine whether the results met acceptance criteria (RPD < 25%). Column results typically differ in solid matrices due to heterogeneities inherent to the sample matrix. Whether or not the RPD meets acceptance criteria, the laboratory reports the higher of the two column results. Any column results with an RPD  $\geq$  25% were qualified as estimated (J) as indicated in the data validation summaries and presented in the data summary tables.

Accuracy of the analytical data was assessed by reviewing recoveries for surrogates, MS / MSD samples, and LCS / LCSD samples. After review of this information, no qualifications were applied to the data as a result of MS/MSD percent recoveries. All surrogate recoveries met acceptance criteria or were diluted out except as noted in the data validation summaries. The LCS / LCSD results met acceptance criteria with one exception, and qualifications were applied for the non-detect Aroclor 1016 (UJ) in two samples as indicated in the data validation summary.

All samples were extracted and analyzed within allowable holding times. Consistent procedures and laboratory analysis of the data were achieved. Sample containers were packed on ice and were accompanied by complete chain of custody forms from the time of sample collection until laboratory delivery. PCBs were not detected in the laboratory method blank analyses, indicating that there were no interferences introduced at the laboratory during sample analysis.

Field blank samples were collected at an approximate frequency of 1 per 20 primary samples, for a total of 4 samples associated with the characterization data. The field blank results were reported as non-detect for PCBs in 3 of the 4 samples, and were reported at 1  $\mu\text{g}/100\text{ cm}^2$  in one wipe sample blank. The data associated with this field blank result has been qualified as undetected (U) due to field blank action as indicated in the data validation summaries and presented in the data summary tables.

Sensitivity was evaluated based on a review of the sample quantitation and reported quantitation limits. Laboratory reported detection limits typically met the site data quality objective (reporting limit  $\leq$  1 ppm for bulk samples and < 0.5  $\mu\text{g}/100\text{ cm}^2$  for wipe samples), except where sample dilutions were required due to elevated PCB concentrations in these samples. In each instance where a sample was reported with an elevated detection limit, the reported concentration was indicative of PCB Remediation Waste or Bulk Product Waste, and the material represented by that sample has been included in the scope of this remediation plan. As such, those samples reported with elevated detection limits do not affect the overall quality of the data given that the data provided the information needed to develop the remediation plan.

The data packages were reviewed to ensure that all sample and associated quality assurance results were available. The completeness review indicated that all samples were analyzed and all quality control results were available to complete the data validation process.

Based on a review of the analytical results, the data adequately represents the materials tested, and the data is of sufficient quality for use in developing the conceptual site model and the remediation plan presented herein.

### 3. REMEDIATION PLAN

This section details the proposed remedial approach for PCB-affected media at Buildings D and Z. With the exceptions noted in Section 2, the PCB characterization data collected from Buildings D and Z generally support the model developed for Buildings A, B, C, E, F, X, and Y, and the remedial approach developed for these buildings, as subsequently modified and approved by EPA, will be carried forward for Buildings D and Z.

#### 3.1 REMEDIATION OVERVIEW

The remediation plan proposed herein is a risk-based request prepared in accordance with 40 CFR Part 761.61(c). While PCB-impacted caulking will be removed for off-site disposal, the majority of the PCB-impacted concrete will remain in-place and be encapsulated with a protective coating. The on-site encapsulation of PCB remediation waste is an interim solution designed to shield impacted building materials from the effects of weathering and leaching mechanisms, thereby eliminating potential exposure pathways and mitigating the potential for PCB transfer via direct contact and/or leaching to other media. Accordingly, the encapsulation will result in conditions protective of human health and the environment. This approach is considered an interim measure, which was considered to be preferable over a concrete removal option given the structural and waterproofing concerns as well as the architectural significance of the buildings. Proper disposal of any remaining PCB remediation waste will be required upon removal of the material or at the time of building demolition.

The remedial approach consists of an exposure pathway elimination approach intended to minimize the level of disruption to tenants and maintain normal site operations. Verification samples will be collected and analyzed following the same methods described in the previous section on characterization sampling and analyses. The general sequence of exterior remediation activities includes the following:

- Establishment of work area and site controls;
- Power washing of the exterior concrete façade;
- Removal and off-site disposal of exterior original and post-1980 replacement caulking, including:
  - Concrete panel and column joints – both buildings;
  - Window and door joints – both buildings;
  - Balcony slab cove joints and door steps joints – Building Z only;
- Surficial cleaning (decontamination) of metal window and door frames in direct contact with caulking;
  - The metal window & door frames will be subject to surficial cleaning after caulking removal; extent of cleaning to be verified by visual inspections and surface wipe samples.
- In-place encapsulation of exterior concrete in direct contact with caulking (within joints);
  - Encapsulate with one thick coat of a liquid epoxy, such as Devcon 5 Minute epoxy or equivalent, followed by baseline wipe testing; two coats of the epoxy will be applied to the balcony and doorstep horizontal cove joints at Building Z followed by baseline wipe testing;
- Application of replacement caulking within decontaminated and/or encapsulated joints;
- Conduct façade repairs as needed (concrete removal and patching in deteriorated or spalled areas);

- In-place encapsulation of exterior concrete not in direct contact with caulking with two coats of an acrylic coating, such as Sikagard 670W, Enviroseal 40, or Super Stain;
  - High-occupancy areas (ground floor exterior walls, balcony/patio vertical surfaces) – remediation of surfaces with PCBs > 1 ppm;
  - Low-occupancy areas (exterior walls at 2<sup>nd</sup> floor level and higher; no balcony access) – remediation of surfaces with PCBs > 25 ppm; and
  - NOTE: Although PCBs impacts are limited to measurable distances from caulking joints, the clear acrylic protective coating will be applied to all exterior vertical concrete surfaces.
- In-place encapsulation of balconies and doorsteps – horizontal concrete surfaces not in direct contact with caulking:
  - Given PCBs > 1 ppm and limitations to removal, balcony surfaces will be encapsulated with a liquid balcony coating system designed for weatherproofing, such as BASF Sonoguard, or equivalent.
  - Given a similar coating system was applied in 2007 to the Building D balconies, additional coatings will only be applied to limited portions of Building D balconies;
  - Concrete door steps (Building Z) – similar to the remedy for the other buildings, door steps will be coated with the same product used on the vertical surfaces (clear acrylic coating, such as Sikagard 670W) for weatherproofing and consistency purposes on concrete within 24 inches of the building façade.
- Remediation of ground level surfaces (soils, brick, asphalt, etc.) are being conducted under previously approved Modification No. 6 and therefore are not included within this Remediation Plan submittal;
- Removal of interior window & door caulking with PCBs over 1 ppm.
  - Residential units
  - Building D first floor childcare, play room, laundry room, and facility management rooms;
- Ongoing monitoring and maintenance of encapsulated areas (monitoring and maintenance plan to be submitted at a later date).

The product technical specifications referenced above have been provided in previous submittals to EPA.

Certain components of the remedy as required by the Approval will be initiated upon completion or substantial completion of the exterior remediation work, including the remediation of interior window and door caulking in residential units, the implementation of a long term monitoring and maintenance program for encapsulated surfaces, and the preparation and recording of a deed notice. Additional details on these items will be provided in future submittals to EPA.

In addition to providing more detailed descriptions of the proposed remediation activities outlined above, the following sections provide details on the proposed site preparations and controls, perimeter air monitoring, verification sampling plans, waste storage and disposal practices, site restoration plans, and recordkeeping requirements.

### **3.2 SITE PREPARATION, CONTROLS, AND MONITORING**

Site preparation and controls will be implemented as described in the previous plan submittals for the low rise and high rise features of the buildings. Summaries of the effectiveness of these controls have been provided in the two status reports documenting the 2010 and 2011 activities.

Air monitoring will be conducted in general accordance with the previously submitted perimeter air monitoring plans, which includes:

- Recording visual observations of the presence or absence of visible dust outside of work containments;
- Recording ambient air dust concentrations with a direct-reading aerosol particulate meter capable of determining dust concentrations to 0.001 mg/m<sup>3</sup>, such as a Thermo MIE Personal Data RAM; and
- Recommending modified work techniques or increased engineering controls as warranted by visible dust observations and/or recorded dust concentrations.

Consistent with the perimeter air monitoring plan implemented during Phase II building work, air monitoring will be performed on a task-specific basis so that monitoring can be biased to locations, specific work activities, or times of day with the highest potential for dust generation (e.g., active concrete removal work). Air monitoring will be performed at a minimum frequency of twice per day. Corrective measures will also continue to be recommended or implemented as needed based on action level exceedances (readings greater than 0.1 mg/m<sup>3</sup> above background) or visible dust observations (e.g., temporary work shut downs, implementation of engineering controls, or changes in work practices if visible dust is observed outside of the containment areas). Particulate dust concentrations will be recorded at an upwind (background) location in addition to several biased locations designated along the perimeter to the work area. Readings will be collected by the field engineer or designated representative trained in the use of the equipment at each location using a Thermo MIE Personal Data RAM Model PDR-1000 monitor or equivalent dust monitor.

Consistent with the Phase II building work practices, perimeter VOC monitoring during the use of exterior building coatings that contain VOCs will be performed in addition to the perimeter air monitoring for particulates.

### **3.3 FAÇADE POWER WASHING AND WATER TREATMENT**

To prepare the concrete facades for patching and surface coating, exterior concrete surfaces are to be coated with Sika FerroGard 903 (a corrosion inhibiting impregnation coating) and then power washed. A sand-induced power washing method will also be used to remove a coat of paint from the undersides of balconies. Power washing will occur within poly sheeting containments where they are able to be constructed around working platforms or on sections of a building façade. As noted in the Contractor Workplan, safety is a priority with work on the high rise and upper floors of the lower rise buildings (issues associated with weather and wind) and full containments around certain sections of the access equipment (e.g., swing staging) will not be possible during all work.

Any power wash water generated during the work will be collected in polyethylene collection bladders constructed at the base of each façade and adhered to the concrete. Submersible pumps will be used to transfer the water from the bladders to the onsite water treatment system. The system will consist of a 4,000 gallon polyethylene influent storage tank, a flow meter / totalizer, a 5 micron (µm) bag filter, three granular activated carbon (GAC) units in series, a 1 µm bag filter, and a 4,000 gallon effluent storage tank. Water will be collected in the influent tank and then batch treated through the system once a sufficient volume of water has been generated. This configuration is the same as the

treatment system that was effectively used during the latter portion of Phase I building work in 2010 and through the entirety of Phase II building work in 2011.

The wash water influent and effluent will be sampled for laboratory analysis of PCBs at a minimum frequency of one sample per batch (i.e., one sample per every 4,000 gallons of water). This frequency is consistent with the Phase II building work water sampling frequency, which demonstrated throughout the course of Phase II operations that effluent concentrations met the target treatment level of PCBs < 3 micrograms per liter (µg/L) as presented in the Phase I & II Status Report. After treatment, wash water will be managed as described in Section 3.11 of this Plan.

### **3.4 CONCRETE REPAIRS**

A primary focus of the exterior façade renovation project is to treat and repair exterior concrete surfaces to prevent further deterioration. In support of this objective, some areas of the façades with extensive spalling (concrete weathering, rebar corrosion, and general deterioration) will require repairs prior to applying any surficial coatings. Façade repairs will generally consist of:

- Sawcutting around sections of damaged concrete to achieve a repair surface bounded by smooth and straight edges (no cutting of existing caulking will be conducted);
- Chipping out the block of cut concrete;
- Grinding and replacing corroded rebar as needed; and
- Patching the surface with new concrete.

This work will be performed as a PCB remediation activity under site controls and subject to perimeter air monitoring as described in Section 3.2 of this Plan. Concrete removed from the building façade will be managed for disposal as PCB waste ≥ 50 ppm.

### **3.5 BUILDING Z EXTERIOR REMEDIATION**

Prior to beginning the remediation work, site controls will be established as described in Section 3.2 above. Air monitoring and power washing will be performed at Building Z as described in Sections 3.2 and 3.3, respectively. The remedial approach to be implemented at Building Z is substantially similar to the approach implemented at Buildings X and Y (the other two high rise buildings of similar construction). Details of the proposed remedial approach are provided below. A summary of the proposed verification samples is provided in Table 3-1.

#### **3.5.1 Exterior Caulking Removal**

Exterior caulking at Building Z panel joints, window/door joints, balcony cove joints, and doorstep cove joints will be removed using hand tools to achieve caulking removal to the maximum extent practicable while minimizing dust or other airborne particulates generated from caulking or adjacent building materials. This will not include mechanical grinding or sawcutting any adjacent concrete to achieve caulking removal. Upon the completion of the initial removal activities, the joints will be visually inspected for the presence of any residual caulking. If residual caulking is observed, it will be removed from the adjacent material to the maximum extent practical prior to encapsulating the concrete returns and decontaminating metal window or door frames in former direct contact with the caulking.



### **3.5.2 Concrete in Direct Contact with Exterior Caulking**

Based on data collected from the previous buildings, concrete in direct contact with caulking (i.e., within the joints) is assumed to contain PCBs > 1 ppm. Because the physical removal of PCBs to  $\leq 1$  ppm in concrete in direct contact with the caulking is infeasible given structural, waterproofing, and aesthetic concerns, and the anticipated disturbance to tenants within the occupied building, a risk-based remedial approach has been developed. The proposed remedial technique for concrete in direct contact with caulking is encapsulation with a liquid epoxy such as Devcon 5 Minute Epoxy. Two coats of Devcon 5 Minute Epoxy will be applied to the horizontal joints at balcony and doorstep locations as a standard practice, and one coat of Devcon 5 Minute Epoxy will continue to be applied for other types of direct contact joints, unless verification sample results >  $1 \mu\text{g}/100\text{cm}^2$  warrant additional layers of the coating be applied. This approach is consistent with the plan outlined in Modification No. 7, and has demonstrated effectiveness as supported by the data presented in the Phase I & II Status Report.

Consistent with the Phase II building work verification sampling frequencies, the proposed sampling frequency for the four different types of masonry joints at Building Z is a minimum of two samples from each of the four different masonry joint types (panel/column, window/door, balcony, and doorstep), for a total of eight baseline surface wipe samples. The specific sample locations will be randomly selected, but will be biased to ground-floor or balcony elevations given the higher potential for direct contact exposures at these locations.

Analytical results from the wipe samples of the epoxy will be evaluated in comparison to a  $1 \mu\text{g}/100 \text{ cm}^2$  target action level to determine whether or not this task is complete. If the target action level is met, the task will be considered complete; if the target action level is not met, an additional surface coating may be applied, and a follow-up surface wipe sample will be collected at an off-set location.

### **3.5.3 Metal in Direct Contact with Exterior Caulking**

The proposed remedial approach for metal window and door frames in direct contact with the former exterior caulking is surficial cleaning using hand tools followed by cleaning with a commercially available cleaner (e.g., isopropyl alcohol). No grinding, sawcutting, or physical removal of the window/door frames will be conducted. This approach is consistent with the metal frame decontamination approach implemented during Phase I and Phase II building work, and has demonstrated effectiveness as supported by the data presented in the Phase I & II Status Report.

Consistent with the Phase II building work verification sampling frequencies, the proposed sampling frequency for the Building Z window and door frame joints is a minimum of 1 sample per every 20 windows or doors, for a total of 14 verification surface wipe samples. The specific sample locations will be randomly selected, but will be biased to ground-floor or balcony elevations given the higher potential for direct contact exposures at these locations.

Analytical results from the wipe samples of the decontaminated frames will be evaluated in comparison to the  $10 \mu\text{g}/100 \text{ cm}^2$  unrestricted use cleanup level for non-porous surfaces to determine whether or not this task is complete. If the cleanup level is met, the task will be considered complete; if the cleanup level is not met, additional decontamination will be performed, and a follow-up surface wipe sample will be collected at an off-set location.

### **3.5.4 Concrete Façade**

While some portions of concrete façades not in direct contact with caulking have been demonstrated to contain PCBs  $\leq 1$  ppm, the scope of the façade repair and waterproofing project includes the encapsulation of all concrete façades. Given this project objective, an encapsulation approach will be implemented for the in-place management of PCBs present in the façade concrete, similar to the approach implemented during Phase I and Phase II building work. This approach has demonstrated effectiveness as supported by the data presented in the Phase I & II Status Report.

Surfaces in need of repair will be patched and prepared so that they are dry, clean, and free of significant cracks or pitting. An encapsulation coating system will be applied to the concrete façade surfaces in order to create a containment barrier encapsulating the residual PCBs in the concrete façade. The façade coating will either consist of two coats of Sikagard 670W, or one coat of BASF EnviroSeal 40 followed by a top coat of Sikagard 670W, or equivalent products, in accordance with Modification No. 7.

Consistent with the Phase II building work verification sampling frequencies, the proposed sampling frequency for the Building Z façade includes two samples from each building façade with a mid-sized area (Z north and south), and three samples from each building façade with the larger area (Z east and west), for a total of 10 samples. The specific sample locations will be randomly selected, but will be biased to the concrete within three inches of a caulked joint given the known higher concentrations, and at ground-floor or balcony elevations given the higher potential for direct contact exposures at these locations.

Analytical results from the wipe samples of the encapsulant will be evaluated in comparison to a  $1 \mu\text{g}/100 \text{ cm}^2$  target action level to determine whether or not this task is complete. If the target action level is met, the task will be considered complete; if the target action level is not met, an additional surface coating may be applied, and a follow-up surface wipe sample will be collected at an off-set location.

### **3.5.5 Concrete Balconies**

While some portions of the concrete balconies not in direct contact with caulking (i.e., at greater distances from the caulked joints) have been demonstrated to contain PCBs  $\leq 1 \text{ ppm}$ , the scope of the façade repair and waterproofing project includes the installation of a liquid coating decking system on all balconies. Given this project objective, an encapsulation approach will be implemented for the in-place management of PCBs present in the balcony concrete, similar to the approach implemented during Phase I and Phase II building work.

Surfaces in need of repair will be patched and prepared so that they are dry, clean, and free of significant cracks or pitting. The coatings will be applied directly to the concrete to create a containment barrier encapsulating the residual PCBs in the concrete. The topside of each balcony will be primed and then encapsulated with two coats of BASF Sonoguard, a colored polyurethane liquid coating system that will also serve as a weatherproofing coating. The underside of each balcony will be coated with a separate breathable waterproof coating. This approach has demonstrated effectiveness as supported by the data presented in the Phase I & II Status Report.

Consistent with the Phase II building work verification sampling frequencies, the proposed sampling frequency for the Building Z balconies is to collect a minimum of 1 sample per every 10 balconies. With a total 66 balconies present at Building Z, this will result in a total of approximately 7 baseline surface wipe samples. The specific sample locations will be randomly selected, but will be biased to the concrete within twelve inches of a caulked joint given the known higher concentrations at these locations.

Analytical results from the wipe samples of the balcony coating will be evaluated in comparison to a  $1 \mu\text{g}/100 \text{ cm}^2$  target action level to determine whether or not this task is complete. If the target action level is met, the task will be considered complete; if the target action level is not met, an additional surface coating may be applied, and a follow-up surface wipe sample will be collected at an off-set location.

### **3.5.6 Concrete Doorstep Surfaces**

While some portions of the concrete doorstep pads not in direct contact with caulking (i.e., at greater distances from the caulked joints) have been demonstrated to contain PCBs  $\leq 1 \text{ ppm}$ , the scope of the project includes the installation of a liquid coating on concrete doorsteps within 24 inches of the caulked joint. This encapsulation

approach will be implemented for the in-place management of PCBs present in the concrete doorstep pads, similar to the approach implemented during Phase I and Phase II building work.

Concrete doorstep pads are present at two locations on the west side of Building Z. Surfaces in need of repair will be patched and prepared so that they are dry, clean, and free of significant cracks or pitting. The coating system will either consist of two coats of Sikagard 670W, or one coat of BASF EnviroSeal 40 followed by a top coat of Sikagard 670W. This approach has demonstrated effectiveness as supported by the data presented in the Phase I & II Status Report.

Consistent with the Phase II building work verification sampling frequencies, the proposed sampling frequency for the Building Z doorsteps is to collect 1 sample from each doorstep. The encapsulated area on the two doorsteps present at Building Z total approximately 28 ft<sup>2</sup> of concrete. The specific sample locations will be randomly selected, but will be biased to sample the concrete within twelve inches of a caulked joint given the known higher concentrations at these locations.

Analytical results from the wipe samples of the doorstep coating will be evaluated in comparison to a 1 µg/100 cm<sup>2</sup> target action level to determine whether or not this task is complete. If the target action level is met, the task will be considered complete; if the target action level is not met, an additional surface coating may be applied, and a follow-up surface wipe sample will be collected at an off-set location.

### **3.6 BUILDING D EXTERIOR REMEDIATION**

Prior to beginning the remediation work, site controls will be established as described in Section 3.2 above. The overall remedial approach to be implemented at Building D is relatively similar to the approach implemented at previous Site buildings, with some modifications as warranted by previous work that has been performed at the building and the unique conditions of the first floor. Details of the proposed remedial approach are provided below. A summary of the proposed verification samples is provided in Table 3-1.

#### **3.6.1 Exterior Caulking Removal**

Exterior caulking at Building D panel / column joints and window / door joints will be removed using hand tools to achieve caulking removal to the maximum extent practicable while minimizing dust or other airborne particulates generated from caulking or adjacent building materials. This will not include mechanical grinding or sawcutting any adjacent concrete to achieve caulking removal. Upon the completion of the initial removal activities, the joints will be visually inspected for the presence of any residual caulking. If residual caulking is observed, it will be removed from the adjacent material to the maximum extent practical prior to encapsulating the concrete returns and decontaminating metal window or door frames in former direct contact with the caulking.

The only exterior caulking not scheduled for removal is the caulking installed in 2007 during the balcony coating system installation. It has been assumed that some residual caulking and/or impacted concrete remains in place beneath this new caulking. This is evident based on the results from some of the wipe samples collected from the surface of this newly installed caulking. Given the current condition of the balcony coating system and the level of disturbance that would be associated with removal of the 2007 caulking and associated decking system, no removal activities are planned at these locations. As discussed below, additional liquid coatings will be applied to the balcony system in areas where wipe samples exceed the target action levels.

### **3.6.2 Concrete in Direct Contact with Exterior Caulking**

Based on data collected from the previous buildings, concrete in direct contact with caulking (i.e., within the joints) is assumed to contain PCBs > 1 ppm. Because the physical removal of PCBs to  $\leq 1$  ppm in concrete in direct contact with the caulking is infeasible given structural, waterproofing, and aesthetic concerns, and the anticipated disturbance to tenants within the occupied building, a risk-based remedial approach has been developed. The proposed remedial technique for concrete in direct contact with caulking at locations where caulking will be removed is encapsulation with a liquid epoxy such as Devcon 5 Minute Epoxy. One coat of Devcon 5 Minute Epoxy will be applied to the inner concrete returns of panel / column joints and window / door joints, unless verification sample results >  $1 \mu\text{g}/100\text{cm}^2$  warrant additional layers of the coating to be applied. This approach is consistent with the plan outlined in Modification No. 7, and has demonstrated effectiveness as supported by the data presented in the Phase I & II Status Report.

Consistent with the Phase II building work verification sampling frequencies, the proposed sampling frequency for the masonry joints is a minimum of two samples from each of the different masonry joint types (panel / column joints and window / door joints), for a total of four baseline surface wipe samples. The specific sample locations will be randomly selected, but will be biased to ground-floor or balcony elevations given the higher potential for direct contact exposures at these locations.

Analytical results from the wipe samples of the epoxy will be evaluated in comparison to a  $1 \mu\text{g}/100 \text{ cm}^2$  target action level to determine whether or not this task is complete. If the target action level is met, the task will be considered complete; if the target action level is not met, an additional surface coating may be applied, and a follow-up surface wipe sample will be collected at an off-set location.

### **3.6.3 Metal in Direct Contact with Exterior Caulking**

The proposed remedial approach for metal window and door frames in direct contact with the former caulking is surficial cleaning using hand tools followed by cleaning with a commercially available cleaner (e.g., isopropyl alcohol). No grinding, sawcutting, or physical removal of the window/door frames will be conducted. This approach is consistent with the metal frame decontamination approach implemented during Phase I and Phase II building work, and has demonstrated effectiveness as supported by the data presented in the Phase I & II Status Report.

Consistent with the Phase II building work verification sampling frequencies, the proposed sampling frequency for the Building D window and door frame joints is a minimum of 1 sample per every 20 windows or doors, for a total of 10 verification surface wipe samples. The specific sample locations will be randomly selected, but will be biased to ground-floor or balcony elevations given the higher potential for direct contact exposures at these locations.

Analytical results from the wipe samples of the decontaminated frames will be evaluated in comparison to the  $10 \mu\text{g}/100 \text{ cm}^2$  unrestricted use cleanup level for non-porous surfaces to determine whether or not this task is complete. If the cleanup level is met, the task will be considered complete; if the cleanup level is not met, additional decontamination will be performed, and a follow-up surface wipe sample will be collected at an off-set location.

### **3.6.4 Concrete Façade**

While some portions of concrete façades not in direct contact with caulking have been demonstrated to contain PCBs  $\leq 1$  ppm, the scope of the façade repair and waterproofing project includes the encapsulation of all concrete façades. Given this project objective, an encapsulation approach will be implemented for the in-place management of PCBs present in the façade concrete, similar to the approach implemented during Phase I and Phase II building work.

Surfaces in need of repair will be patched and prepared so that they are dry, clean, and free of significant cracks or pitting. An encapsulation coating system will be applied to the concrete façade surfaces in order to create a containment barrier encapsulating the residual PCBs in the concrete façade. The façade coating will either consist of two coats of Sikagard 670W, or one coat of BASF EnviroSeal 40 followed by a top coat of Sikagard 670W, or equivalent product, in accordance with Modification No. 7. This approach has demonstrated effectiveness as supported by the data presented in the Phase I & II Status Report.

Consistent with the Phase II building work verification sampling frequencies, the proposed sampling frequency for the Building D façade includes two samples from each building façade with a mid-sized area (D north and south), and one sample from each building façade with the smallest area (D east and west), for a total of six samples. The specific sample locations will be randomly selected, but will be biased to the concrete within three inches of a caulked joint given the known higher concentrations, and at ground-floor or balcony elevations given the higher potential for direct contact exposures at these locations.

Analytical results from the wipe samples of the encapsulant will be evaluated in comparison to a  $1 \mu\text{g}/100 \text{ cm}^2$  target action level to determine whether or not this task is complete. If the target action level is met, the task will be considered complete; if the target action level is not met, an additional surface coating may be applied, and a follow-up surface wipe sample will be collected at an off-set location.

### **3.6.5 Concrete Balconies**

As described in Section 2.3.3, the Building D balconies are each currently coated with a polyurethane weatherproofing coating system (BASF Sonoguard), which was applied to the balcony surfaces in 2007. The project's design engineering and architect team have indicated that this previously applied coating is in excellent condition and does not need to be replaced as part of this façade renovation work. Surface wipe samples from the coated balconies collected at the project's verification frequency (minimum of 1 sample per 10 balconies) indicated that the existing coating system currently meets remediation project objectives as all 8 samples were reported as non-detect for PCBs. As such, the balcony restoration component of the work (i.e., coating system application) is not part of the Building D façade renovation project.

However, the remediation project objectives have not yet been met at all balcony cove joint locations, where sample data was reported below the  $1 \mu\text{g}/100 \text{ cm}^2$  target action level in 5 out of 7 samples collected, but above the target action level in 2 samples (PCBs reported at 4.5 and  $16.2 \mu\text{g}/100 \text{ cm}^2$ ) on the encapsulated surface of two cove joints.

The proposed approach to meet remediation project objectives at the balcony cove joints is to apply an additional coating of liquid encapsulant to the surface of the Building D balcony cove joints represented by the 2 samples above  $1 \mu\text{g}/100 \text{ cm}^2$  with the objective of meeting the  $1 \mu\text{g}/100 \text{ cm}^2$  target action level in these areas. This approach is similar to the approach applied at previous Site buildings in instances where the initial layers of epoxy did not meet the  $1 \mu\text{g}/100 \text{ cm}^2$  target action level, but surface wipe samples collected from the outer encapsulated surface of the cove joint barrier subsequently demonstrated that the target action level had been achieved.

After applying an additional liquid encapsulant coating to the surface of the balcony cove joints, surface wipe samples will be collected from off-set locations at these two areas. Analytical results from the wipe samples of the balcony coating will be evaluated in comparison to a  $1 \mu\text{g}/100 \text{ cm}^2$  target action level to determine whether or not this task is complete. If the target action level is met, the task will be considered complete; if the target action level is not met, an additional surface coating may be applied, and a follow-up surface wipe sample will be collected at an off-set location.

### **3.7 BUILDING D AND Z RESIDENTIAL UNIT INTERIORS**

Based on the characterization results, the residential units within Buildings D and Z will be incorporated into the overall interior residential unit remediation plan. In 2011, a pilot test of the proposed interior residential unit remedial approach was implemented within Building A. Based in the pilot test results, a slight modification to the interior remedial approach is proposed. A description of the proposed plan, as well as a proposed schedule and a post-abatement monitoring plan as required by the Approval is presented in Appendix D. The remediation of interior window and door caulking within residential units will be initiated upon completion or substantial completion of the exterior remediation work.

### **3.8 BUILDING D FIRST FLOOR INTERIOR**

As described in Section 2.5 of this Plan, the entire first floor of Building D is used for non-residential purposes, and is occupied by two PTCC childcare facilities, a children's play room available to all tenants, a laundry area, and the facility's management offices.

Observations of interior conditions within the laundry area, play room, and the facility management office indicate visually similar interior caulking at window and door joints within these areas as those observed in the residential units (some windows) or the PTCC childcare rooms. Given the use of these rooms and the window configurations, the remediation of these three rooms will be performed consistent with the residential unit interior remediation plan (see Section 3.7).

Given the potential for access limitations and noise / disruptions to the building during the upcoming exterior façade work at Building D, the PTCC operations will be relocated to a temporary modular facility located in the lawn area west of Building E for the duration of the work at the building. This process was successfully implemented during the Phase II work for the PTCC facility located in Building F.

Bulk interior caulking has been reported with PCBs > 1 ppm at both metal to metal joints and metal to concrete joints associated with interior windows and doors in the PTCC rooms. As such, the proposed remedial approach is to remove caulking from both joint types from all windows and doors present within the rooms. Caulking and concrete removed from these interior locations will be managed for disposal as PCB waste  $\geq$  50 ppm with the exterior building waste stream as described in Section 3.11.

Prior to beginning caulking removal work, engineering controls will be implemented at each work area as follows:

- Access to the interior of the facilities will be restricted to authorized personnel (i.e., contractor, owner reps, managers, and engineer);
- Access to the active work areas (i.e., containments) will be managed through the use of controlled access points (i.e., a poly sheeting door flap posted with appropriate signage). The containment will be established by shutting windows and doors within the work area, removing movable objects such as curtains or furniture, and covering non-movable objects such as radiator covers and floors with 6-mil polyethylene sheeting sealed with tape at the edges.

At locations where caulking is present at metal to metal joints, the caulking will be removed, and the metal components in former direct contact with the caulking will be decontaminated in the same manner as the exterior window and door frame decontamination (i.e., using hand tools to remove caulking followed by cleaning with a commercially available cleaner such as isopropyl alcohol). The proposed surface wipe verification sample frequency for decontaminated metal frames is consistent with the sampling frequency implemented for the same work in the

Building F PTCC facility. Verification surface wipe samples will be collected from representative locations at a frequency of one sample per 25 l.f. of caulking removed. It is estimated that approximately 135 l.f. of this caulking type is present, which will result in a minimum of 6 samples to be collected from metal frames in these areas.

Analytical results from the wipe samples of the decontaminated frames will be evaluated in comparison to a 1 µg/100 cm<sup>2</sup> target action level to determine whether or not this task is complete. If the target action level is met, the task will be considered complete; if the target action level is not met, additional decontamination will be performed, and a follow-up surface wipe sample will be collected at an off-set location.

At the locations where caulking is present at concrete to metal joints, the caulking will be removed, metal decontaminated (as described above), and the adjacent concrete will be managed consistent with the remedial approach implemented for similar work in the Building F PTCC facility. The adjacent concrete will initially be grinded at the surface in former direct contact with the caulking. Bulk concrete verification samples will be collected at a frequency of one sample per 50 l.f. based on an estimated 400 l.f. of this type of joint (approximately 25 l.f. of caulking per window). This frequency will result in the collection of 8 samples, or, one sample per every other window.

Analytical results from the bulk concrete samples will be evaluated in comparison to a 1 ppm cleanup level. If the cleanup level is achieved, the surface will be restored and no further actions will be taken with regard to PCBs. If the 1 ppm cleanup level has not been achieved, then additional removals will be attempted if possible and verification samples collected. However, if the 1 ppm level cannot be achieved, then an encapsulation approach similar to the building exterior will be implemented.

A summary of the proposed verification samples to be collected from each joint type is presented in Table 3-1.

### **3.9 ADJACENT GROUND SURFACES**

The remediation of Site ground surfaces containing PCBs > 1 ppm adjacent to Buildings D and Z is underway as of the date of this Plan in accordance with Modification No. 6. These activities will be documented in a future submittal to EPA in accordance with the Approval.

Because the excavation of soils surrounding Buildings D and Z will be complete prior to beginning the façade renovation and remediation work, additional ground surface protections will be implemented during the façade work to prevent any cross-contamination to the newly imported soils. In addition to the polyethylene sheeting and/or power wash water collection bladders that have been installed throughout all phases of façade work, a layer of a non-woven geotextile fabric will be used beneath the poly sheeting and/or water collection bladders over soils adjacent to Buildings D and Z during the Phase III façade work. Upon completion of the façade work, the geotextile and poly sheeting will be disposed as PCB waste as described in Section 3.11.

### **3.10 SITE RESTORATION**

After caulking removal and joint encapsulation (concrete surfaces) or decontamination (metal surfaces), remediated joints will be restored by sealing the joint with a new foam backer or bond breaker tape and new caulking. The selected caulking is Sikaflex 2C, a two-component, non-sag, polyurethane-based, elastomeric caulking suitable for horizontal and vertical joints.

The site controls will be dismantled and wastes will be transported off-site for disposal as described below.

### **3.11 WASTE STORAGE AND DISPOSAL**

PCB waste storage and disposal practices for Phase III remedial activities will be performed in the same manner as for Phase I and II work. A summary of these procedures is provided below.

All exterior caulking and concrete removed during remediation and façade repair work will be managed as a single waste stream and designated as bulk PCB waste (PCBs  $\geq$  50 ppm). Building debris collected within the polyethylene containment areas and on ground cover sheeting will be gathered and placed in labeled 5 or 16 gallon working containers lined with 6-mil polyethylene bags. When full or at the end of each work shift, the bags will be removed from working containers and transported to the main accumulation area (a locked trailer), where they will be placed in cubic yard boxes labeled for disposal as PCB waste  $\geq$  50 ppm. Filled containers will be transported under manifest for off-site disposal at the EQ-Wayne Disposal, Inc. facility located in Belleville, Michigan, or an equivalent TSCA waste disposal facility.

After removing loose debris, any disposable polyethylene sheeting, PPE, and non-liquid cleaning materials will be managed and disposed of in accordance with 40 CFR 761.61(a)(5)(v). The waste will be consolidated in polyethylene bags and then transported to the main accumulation area (a locked trailer), where the waste will be placed in cubic yard boxes labeled for disposal as PCB remediation waste  $> 1$  ppm and  $< 50$  ppm. Upon completion of the work or when a container is considered full, the remediation waste will be transported under manifest for off-site disposal at the EQ-Wayne Disposal, Inc. non-hazardous waste facility located in Detroit, Michigan, or equivalent waste disposal facility.

Liquid PCB wastes (power wash water) generated during work activities will be collected in polyethylene bladders and pumped to an on-site treatment system as described in Section 3.3. The wash water effluent sampling results will determine which disposal facilities can accept the waste. Anticipating that the effluent results are consistent with the results reported during Phase II work (i.e., PCB concentrations below 3  $\mu\text{g/L}$ ), it will be transported under manifest for off-site disposal at the NewStream, LLC treatment facility in Attleboro, Massachusetts, or equivalent waste disposal facility. If the treatment goal is not met (PCBs  $> 3$   $\mu\text{g/L}$ ), the water will be transported for off-site treatment to Chemical Waste Management's Model City, New York facility.

PCB wastes generated during the work activities will be stored in accordance with 40 CFR 761.65, and containers will be properly labeled and marked in accordance with 40 CFR 761.40. Copies of manifests, waste shipment records, and certificates of disposal will be collected and provided as part of the final report to EPA.

### **3.12 RECORDKEEPING AND DOCUMENTATION**

Following completion of the work activities, records and documents per 40 CFR Part 761, including the records required under Subparts J and K, will be generated and maintained at one location. A final report documenting the completion of the work activities, verification analytical results and laboratory reports, volumes of disposed materials, and waste disposal records will be prepared and submitted to EPA. As required by the Approval, a deed notice will be prepared as part of the risk-based remedial approach, and a monitoring and maintenance implementation plan (MMIP) will be developed to present the ongoing monitoring and maintenance requirements associated with the remedy.



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## 4. COMMUNICATIONS

Prior to initiation and periodically during the work activities, project-related communications with tenants, employees, and PTCC staff and parents will be undertaken on an as-needed basis (i.e., notice of disruptive activities to particular areas) or as significant project milestones are achieved. During the Phase I and Phase II building remediation work, weekly project updates were emailed by Harvard's Construction Mitigation department to subscribing Peabody Terrace tenants. These updates will continue and include information regarding the specific work activities that would be taking place at each building during that week. In addition, tenants will be notified of each of the following events by a notice delivered to their unit:

- Complex-wide update on PCB presence and plan for remediation
- Start of building remediation work
- Balcony use restrictions
- Notice of use of odor producing materials
- Notice of entry for air conditioner unit installations or removals
- Notice of end of balcony use restrictions
- General project schedule update
- Notice of weekend work

A Construction Mitigation Hotline phone number has been provided to Peabody Terrace tenants in the event that any specific comments or questions arise during the work. The phone calls are answered and documented by Harvard Mitigation staff throughout remediation work, and any recurring issues (e.g., noise complaints, etc.) are discussed at weekly project meetings to keep the involved parties informed of these issues.

Additional information on Harvard's communications with tenants and employees undertaken in the early phases of the project before remediation work began is provided in Section 6 of the Building A Plan.

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## 5. SCHEDULE

Remediation activities are scheduled to begin in the spring of 2012 following approval of this Modification request. Phase I and Phase II exterior building remediation work items listed as not completed in the Phase I & II Status Report will continue in 2012 concurrent with the performance of Phase III work, as schedule allows. Tables summarizing the outstanding Phase I and Phase II work items as of December 31, 2011 are provided in Appendix A of the Phase I & II Status Report.

Certain components of the remedy as required by the Approval will be initiated upon completion or substantial completion of the exterior remediation work, including the remediation of interior window and door caulking in residential units, the implementation of a long term monitoring and maintenance program for encapsulated surfaces, and the preparation and recording of a deed notice. Additional details on these items will be provided in future submittals.

**Table 2-1**  
**Building Z - Exterior Characterization Data**  
**Peabody Terrace, Cambridge, Massachusetts**

Media	Type	Building ID	Façade	Unit Number	Sample Date	Sample Description	Sample Result				
							Sample ID	Reporting Limit	Aroclor 1242	Aroclor 1254	Total PCBs
Panel Caulking											
Caulking	Bulk	Z	East	--	12/8/11	First floor, 1 foot south of Building 1 entrance, vertical panel joint, 1 foot above ground surface	PTZ-CBK-E-1972	535	ND	6,010	6,010
Window / Door Caulking											
Caulking	Bulk	Z	West	1-12	12/8/11	Unit 1-12, first floor, southernmost door, northern vertical joint, 4 feet above ground surface	PTZ-CBK-W-1973	2.15	ND	44.0	44.0
Balcony Cove Joint Caulking											
Caulking	Bulk	Z	West	2-1402	1/27/12	Unit 2-1402, 14th floor, northern balcony, 6 feet south of northern balcony edge	PTZ-CBK-21402- 2337	50.8	ND	967	967
Doorstep Caulking											
Caulking	Bulk	Z	West	1-12	12/8/11	Unit 1-12, first floor, beneath patio door	PTZ-CBK-W-1974	14.9	ND	283	283
Concrete Façade											
Concrete	Bulk	Z	North	1-11	12/15/11	Unit 1-11, first floor, 7 feet west of eastern building façade, 2 feet above ground surface	PTZ-CBC-N-2008	0.033	0.052	0.039	0.091
Concrete	Bulk	Z	East	1-12	12/19/11	Unit 1-12, first floor, 6 feet south of entrance 1, 1 foot below horizontal panel joint	PTZ-CBC-E-2010	0.043	0.118	ND	0.118
Concrete	Bulk	Z	West	2-103	12/19/11	Unit 2-103, First floor, 0.5 feet north of 2nd floor southern balcony edge, 0.5 feet below horizontal panel joint	PTZ-CBC-W-2011	0.053	0.197	ND	0.197
Concrete Balconies											
Concrete	Bulk	Z	West	2-1402	1/27/12	Unit 2-1402, 14th floor, northern balcony, 5 feet south of northern balcony edge, 0.3 feet west of building façade	PTZ-CBC-21402-2335	2.01	ND	26.5	26.5
Concrete Doorstep											
Concrete	Bulk	Z	West	1-11	12/19/11	Unit 1-11, first floor, 1 foot west of western building façade, 1 foot south of northern doorstep edge	PTZ-CBC-W-2009	0.063	0.156	ND	0.156

Notes:

1. All samples were extracted by USEPA Method 3540C (Soxhlet) and analyzed by USEPA Method 8082.
2. All bulk sample results are presented in milligrams per kilogram (mg/kg).
3. All wipe sample results are presented in micrograms per 100 square centimeters (ug/100cm<sup>2</sup>).
4. ND = Not detected above laboratory's minimum reporting limit, as indicated.
5. No results were qualified as estimated based on data validation.

**Table 2-2**  
**Building D - Exterior Characterization Data**  
**Peabody Terrace, Cambridge, Massachusetts**

Media	Type	Building ID	Façade	Unit Number	Sample Date	Sample Description	Sample Result					
							Sample ID	Reporting Limit	Aroclor 1254	Aroclor 1260	Total PCBs	Qualifier
Concrete Façade												
Concrete	Bulk	D	South	--	12/15/11	First floor, concrete column east of management office entrance, 6 inches west of panel joint, 2 feet above ground surface	PTD-CBC-S-2007	0.033	0.158	0.130	0.288	
Panel Caulking												
Caulking	Bulk	D	East	--	12/8/11	First floor, 2 feet south of northern building façade, vertical panel joint, 4 feet above ground surface	PTD-CBK-E-1970	3.04	ND	60.8	60.8	
Caulking	Bulk	D	North	--	12/8/11	First floor, 6 feet west of Building D tunnel, vertical panel joint, 1 foot above ground surface	PTD-CBK-N-1971	3.20	ND	95.2	95.2	
Caulking	Bulk	D	North	6-21	1/17/12	Unit 6-21, second floor, 11 feet above ground surface, western unit, eastern vertical panel joint	PTD-CBK-2317	7.56	ND	63.5	63.5	J
Caulking	Bulk	D	East	9-22	1/17/12	Unit 9-22, second floor, 12.5 feet above ground surface, 22.5 feet south of northern building façade, vertical panel joint	PTD-CBK-2320	6.11	ND	96.6	96.6	J
Caulking	Bulk	D	West	--	1/17/12	Second floor, 13 feet above ground surface, 18 feet south of northern building façade, vertical panel joint	PTD-CBK-W-2322	4.65	ND	79.0	79.0	J
Window / Door Caulking												
Caulking	Bulk	D	South	--	12/8/11	First floor, window west of management office entrance, lower horizontal joint, 1 feet west of eastern vertical joint	PTD-CBK-S-1969	1.91	30.2	ND	30.2	
Caulking	Bulk	D	North	--	12/8/11	First floor, window west of Building 8 entrance, western vertical joint, 2 feet above ground surface	PTD-CBK-N-1975	0.231	ND	0.930	0.930	
Caulking	Bulk	D	North	6-21	1/17/12	Unit 6-21, second floor, 11 feet above ground surface, western unit, eastern vertical joint of eastern window	PTD-CBK-N-2316	0.142	ND	3.740	3.74	J
Caulking	Bulk	D	North	8-22	1/17/12	Unit 8-22, second floor, 13 feet above ground surface, western unit, eastern vertical joint of eastern window	PTD-CBK-822-2318	4.290	ND	78.2	78.2	J
Caulking	Bulk	D	East	9-22	1/17/12	Unit 9-22, second floor, 12 feet above ground surface, southern vertical joint of window	PTD-CBK-922-2319	27.700	ND	256	256	J

**Table 2-2**  
**Building D - Exterior Characterization Data**  
**Peabody Terrace, Cambridge, Massachusetts**

Media	Type	Building ID	Façade	Unit Number	Sample Date	Sample Description	Sample Result					
							Sample ID	Reporting Limit	Aroclor 1254	Aroclor 1260	Total PCBs	Qualifier
Balcony Deck Surface												
Concrete	Wipe	D	South	2-509	12/8/09	Unit 2-509, fifth floor, 2.5 feet south of building façade, 4 feet east of western balcony edge	PTD-CWC-S-0338	0.5	ND	ND	ND	
Concrete	Wipe	D	South	2-509	12/8/09	Unit 2-509, fifth floor, 8 inches south of façade, 17 feet east of western balcony edge	PTD-CWC-S-0339	0.5	ND	ND	ND	
Concrete	Wipe	D	South	4-31	12/8/11	Unit 4-31, third floor, eastern balcony, 5 feet east of western balcony edge, 1 foot south of building façade	PTD-CWC-S-1979	0.5	ND	ND	ND	
Concrete	Wipe	D	South	6-32	12/8/11	Unit 6-32, third floor, 2 feet east of western balcony edge, 2 feet south of building façade	PTD-CWC-S-1981	0.5	ND	ND	ND	
Concrete	Wipe	D	South	9-31	12/8/11	Unit 9-31, third floor, eastern balcony, 10.5 feet west of eastern balcony edge, 1 foot south of building façade	PTD-CWC-S-1983	0.5	ND	ND	ND	
Concrete	Wipe	D	South	5-21	12/8/11	Unit 5-21, second floor, 3 feet west of eastern balcony edge, 3 feet south of building façade	PTD-CWC-S-1985	0.5	ND	ND	ND	
Concrete	Wipe	D	South	6-22	12/8/11	Unit 6-22, second floor, 1 foot west of eastern balcony edge, 1 foot south of building façade	PTD-CWC-S-1987	0.5	ND	ND	ND	
Concrete	Wipe	D	South	9-21	12/8/11	Unit 9-21, second floor, western balcony, 8.5 feet east of western balcony edge, 4 feet south of building façade	PTD-CWC-S-1989	0.5	ND	ND	ND	
Balcony Cove Joint Surface												
Caulking	Wipe	D	South	2-509	12/8/09	Unit 2-509, fifth floor, 7 feet east of western balcony edge	PTD-CWC-S-0340	0.5	0.6	ND	0.6	
Caulking	Wipe	D	South	4-31	12/8/11	Unit 4-31, third floor, eastern balcony, 9.5 feet west of eastern balcony edge	PTD-CWK-S-1978	0.5	ND	ND	ND	
Caulking	Wipe	D	South	6-32	12/8/11	Unit 6-32, third floor, 2 feet west of eastern balcony edge	PTD-CWK-S-1980	0.5	ND	ND	ND	
Caulking	Wipe	D	South	9-31	12/8/11	Unit 9-31, third floor, eastern balcony, 5 feet west of eastern balcony edge	PTD-CWK-S-1982	0.5	ND	ND	ND	
Caulking	Wipe	D	South	5-21	12/8/11	Unit 5-21, second floor, at west side of eastern balcony edge	PTD-CWK-S-1984	0.5	ND	4.5	4.5	
Caulking	Wipe	D	South	6-22	12/8/11	Unit 6-22, second floor, 5 feet east of western balcony edge	PTD-CWK-S-1986	2.5	ND	16.2	16.2	
Caulking	Wipe	D	South	9-21	12/8/11	Unit 9-21, second floor, western balcony, 2 feet west of eastern balcony edge	PTD-CWK-S-1988	0.5	ND	0.7	0.7	

Notes:

1. All samples were extracted by USEPA Method 3540C (Soxhlet) and analyzed by USEPA Method 8082.
2. All bulk sample results are presented in milligrams per kilogram (mg/kg).
3. All wipe sample results are presented in micrograms per 100 square centimeters (ug/100cm<sup>2</sup>).
4. ND = Not detected above laboratory's minimum reporting limit, as indicated.
5. J = Value is qualified as estimated based on data validation.

**Table 2-3**  
**Buildings D & Z - Residential Unit Interior Characterization Data**  
**Peabody Terrace, Cambridge, Massachusetts**

Media	Building ID	Unit Number	Sample Date	Sample Description	Bulk Sample Result				Wipe Sample Result				
					Sample ID	Reporting Limit	Total PCBs	Qualifier	Sample ID	Preservative	Reporting Limit	Total PCBs	Qualifier
Interior Samples													
Caulking	D	6-32	1/11/12	Living Room Window/Door Caulking	PTD-CBK-632-2030	29.4	498		PTD-CWK-632-2031	Hexane	0.5	9.2	
									PTD-CWK-632-2328	Saline	--	-- <sup>6</sup>	
Surface	D	6-32	1/11/12	Window/Door Frame Adj to Caulking	--	--	--	--	PTD-CWM-632-2036	Hexane	0.5	ND	
Surface	D	6-32	1/11/12	Living Room Floor	--	--	--	--	PTD-CWT-632-2033	Hexane	0.5	ND	
Surface	D	6-32	1/11/12	Living Room Wall	--	--	--	--	PTD-CWW-632-2035	Hexane	0.5	0.8	U
Caulking	Z	1-21	1/11/12	Living Room Window/Door Caulking	PTZ-CBK-121-2041	13	235		PTZ-CWK-121-2038	Hexane	0.5	1.6	U
									PTZ-CWK-121-2329	Saline	0.5	ND	
Surface	Z	1-21	1/11/12	Window/Door Frame Adj to Caulking	--	--	--	--	PTZ-CWM-121-2044	Hexane	0.5	ND	
Surface	Z	1-21	1/11/12	Living Room Floor	--	--	--	--	PTZ-CWT-121-2042	Hexane	0.5	ND	
Surface	Z	1-21	1/11/12	Living Room Wall	--	--	--	--	PTZ-CWW-121-2043	Hexane	0.5	2.5	U

Notes:

1. All bulk and surface wipe samples were extracted by USEPA Method 3540C (Soxhlet) and analyzed by USEPA Method 8082.
2. All bulk sample results are presented in milligrams per kilogram (mg/kg).
3. All wipe sample results are presented in micrograms per 100 square centimeters (ug/100cm<sup>2</sup>).
4. ND = Not detected above laboratory's minimum reporting limit, as indicated.
5. U = Result is qualified as undetected due to field blank action.
6. Sample not analyzed due to laboratory error.

**Table 2-4**  
**Buildings D and Z - Indoor Air Characterization Data**  
**Peabody Terrace, Cambridge, Massachusetts**

Sample Description	Assoc. Bulk Caulking Result (mg/kg)	Air Sample ID	Sample Date	PCB Concentration (ng/cartridge)	Flow Rate (L/Minute)	Duration (minutes)	Corrected Sample Volume (m <sup>3</sup> )	Total PCB Concentration (ng/m <sup>3</sup> )
<b>Residential Unit Indoor Air</b>								
Building D Unit 6-32 Living Room (2 Bedroom)	498	PTD-CAR-632-2037	1/11/2012	36.5	2.50	120	0.293	124.6
Building Z Unit 1-21 Living Room (1 Bedroom)	235	PTZ-CAR-121-2045	1/11/2012	< 10	2.35	120	0.276	< 36.3 UJ
<b>Outdoor Air (Background)</b>								
Courtyard 13' West of asphalt sidewalk 5' South of brick sidewalk	N/A	PTD-CAR-S-2046	1/11/2012	< 10	1.25 <sup>7</sup>	120	0.164	< 60.9

Notes:

1. Air samples collected in accordance with USEPA Compendium Method TO-10A and submitted for laboratory analysis of PCBs homologs.
2. The flow rate displayed is the average flow rate as measured at the beginning and end of the sampling period; target flow of 2.50 L/minute.
3. Sample volume is corrected to standard temperature and pressure in accordance with Section 13.1.7 of Method TO-10A.
4. Average weather conditions during the sampling period were 0.94°C and 756 mmHg (outdoor), and 23.5°C and 764 mmHg (indoor).
5. Total PCB concentration is the total PCB homologs reported by the lab (ng/cartridge) per corrected sample volume (m<sup>3</sup>/cartridge).
6. "<" indicates that samples were reported below the laboratory's minimum detection limit.
7. Due to battery performance in cold weather, pumping rate slowed to zero at the end of the 2 hour sampling interval; assumed final flow of 0 L/minute.
8. UJ = Result is qualified as estimated based on data validation (low surrogate recoveries).

**Table 2-5**  
**PTCC North & Play Room Interior Caulking Characterization Data**  
**Peabody Terrace, Cambridge, Massachusetts**

Media	General Sample Location	Associated Wipe Sample Result (Sept. 2009)	Bulk Sample Results			
			Sample ID	Date	Detection Limit	Total PCBs <sup>(6)</sup>
<b><i>Metal to Concrete Joints</i></b>						
Window Caulking	Vertical metal window frame to concrete column caulking joint, south wall	ND (< 0.5)	PTD-CBK-DC01-2015	12/22/11	0.198	ND
Window Caulking	Vertical metal window frame to concrete column joint, eastern vertical joint of easternmost window on southern wall	--	PTD-CBK-PR01-2022	12/22/11	0.462	<b>22.2</b>
Door Caulking	Vertical metal to concrete door joint on southern wall, adj to southern entrance	ND (< 0.5)	PTD-CBK-DC02-2021	12/22/11	0.363	<b>7.81</b>
<b><i>Metal to Metal Joints</i></b>						
Window Caulking	Horizontal metal to metal caulking joint beneath operable window, south wall	ND (< 0.5)	PTD-CBK-DC01-2016	12/22/11	0.145	ND
Window Caulking	Horizontal metal to metal caulking joint beneath operable window, south wall of western room	ND (< 0.5)	PTD-CBK-DC02-2019	12/22/11	0.264	ND
Window Caulking	Metal to metal caulking joint at eastern operable window on southern wall	--	PTD-CBK-PR01-2023	12/22/11	0.429	<b>5.12</b>
Door Caulking	Vertical metal to metal caulking joint at entrance door, south wall	ND (< 0.5)	PTD-CBK-DC01-2018	12/22/11	0.330	ND
Door Caulking	Vertical metal to metal door joint on southern wall, adj to southern entrance. Same door as sample -0137	--	PTD-CBK-DC02-2020	12/22/11	0.264	<b>7.65</b>

**Notes:**

1. All samples were extracted by USEPA Method 3540C (Soxhlet) and analyzed by USEPA Method 8082.
2. All wipe sample results are presented in micrograms per 100 cm<sup>2</sup> (ug/100 cm<sup>2</sup>).
3. Wipe samples were collected as surface wipes from a 100 cm<sup>2</sup> area using hexane-preserved wipes provided by the laboratory.
4. ND = Not detected above laboratory's minimum reporting limit, as indicated.
5. Wipe sample data collected in Sept. 2009 was presented in Appendix A of the Feb. 2010 PCB Remediation Plan. The full dataset included:
  - a. Building D Toddler / Preschooler Room (DC01): 2 metal to metal wipes, 3 metal to concrete wipes; all ND (< 0.5 ug/100cm<sup>2</sup>)
  - b. Building D Infant / Toddler Room (DC02): 3 metal to metal wipes, 3 metal to concrete wipes; all ND (< 0.5 ug/100cm<sup>2</sup>)
  - c. Building D Play Room (PR01): 3 metal to metal wipes, 3 metal to concrete wipes; all ND (< 0.5 ug/100cm<sup>2</sup>)
6. Bulk sample results are presented in units of milligrams per kilogram (mg/kg).
7. No results were qualified as estimated based on data validation.



**Table 3-1**  
**Building D & Z Verification Sampling Summary**  
**Peabody Terrace, Cambridge, Massachusetts**

Direct Contact Epoxy Wipe Samples		
<i>Building</i>	<i>Joint Type</i>	<i># of Samples</i>
D	Exterior façade panels and columns	2
	Windows and doors	2
	Patio/doorstep cove joints	N/A
Z	Exterior façade panels and columns	2
	Windows and doors	2
	Balcony cove joints	2
	Patio/doorstep cove joints	2
<b>Total:</b>		<b>12</b>

Metal in Direct Contact with Caulking		
<i>Building</i>	<i>Media</i>	<i># of Samples</i>
D	Metal window frame	10
Z	Metal window frame	14
<b>Total:</b>		<b>24</b>

Concrete Patio Wipe Samples		
<i>Building</i>	<i>Media</i>	<i># of Samples</i>
D	Concrete patio surface	N/A
Z	Concrete patio surface	N/A
<b>Total:</b>		<b>0</b>

Building D First Floor Interior Samples		
<i>Sample Type</i>		<i># of Samples</i>
Concrete adjacent to metal frames		8
Decontaminated interior metal frames		6
<b>Total:</b>		<b>14</b>

N/A = not applicable

Indirect Contact Façade Wipe Samples		
<i>Building</i>	<i>Façade</i>	<i># of Samples</i>
D	North	2
	East	1
	South	2
	West	1
Z	North	3
	East	2
	South	3
	West	2
<b>Total:</b>		<b>16</b>

Concrete Balcony Wipe Samples		
<i>Building</i>	<i>Media</i>	<i># of Samples</i>
D	Concrete balcony cove joint	6 (partially completed)
	Concrete balcony surface	6 (completed)
Z	Concrete balcony surface	7
<b>Total:</b>		<b>13</b>

Concrete Doorstep Wipe Samples		
<i>Building</i>	<i>Media</i>	<i># of Samples</i>
D	Concrete doorstep surface	N/A
Z	Concrete doorstep surface	2
<b>Total:</b>		<b>2</b>

Façade Power Wash Water		
<i>Building</i>	<i>Media</i>	<i># of Samples</i>
All	Façade Wash Water (influent, midpoint, effluent)	One per 4,000 gallons
<b>Total (est. based on Phase II volume):</b>		<b>5</b>





**WOODARD & CURRAN**  
 35 New England Business Center  
 Andover, MA 01810  
 COMMITMENT & INTEGRITY DRIVE RESULTS

**PEABODY TERRACE  
 CAMBRIDGE, MASSACHUSETTS  
 STATUS REPORT**

SCALE: AS NOTED  
 DATE: FEBRUARY 2012  
 JOB NO.: 210980  
 FILE: Figure 1-1.cnv

**SITE LOCUS**

DES.BY: EVR  
 DR.BY: EVR  
 CK.BY: JAH

**1-1**









**LEGEND**

1972 ● BULK CAULKING SAMPLE

2010 ● INDIRECT CONTACT FACADE CONCRETE

0 10 20  
SCALE IN FEET

CHARACTERIZATION SAMPLE  
LOCATIONS - BUILDING Z  
SOUTH & EAST

CAMBRIDGE, MASSACHUSETTS  
BUILDING D & Z REMEDIATION PLAN

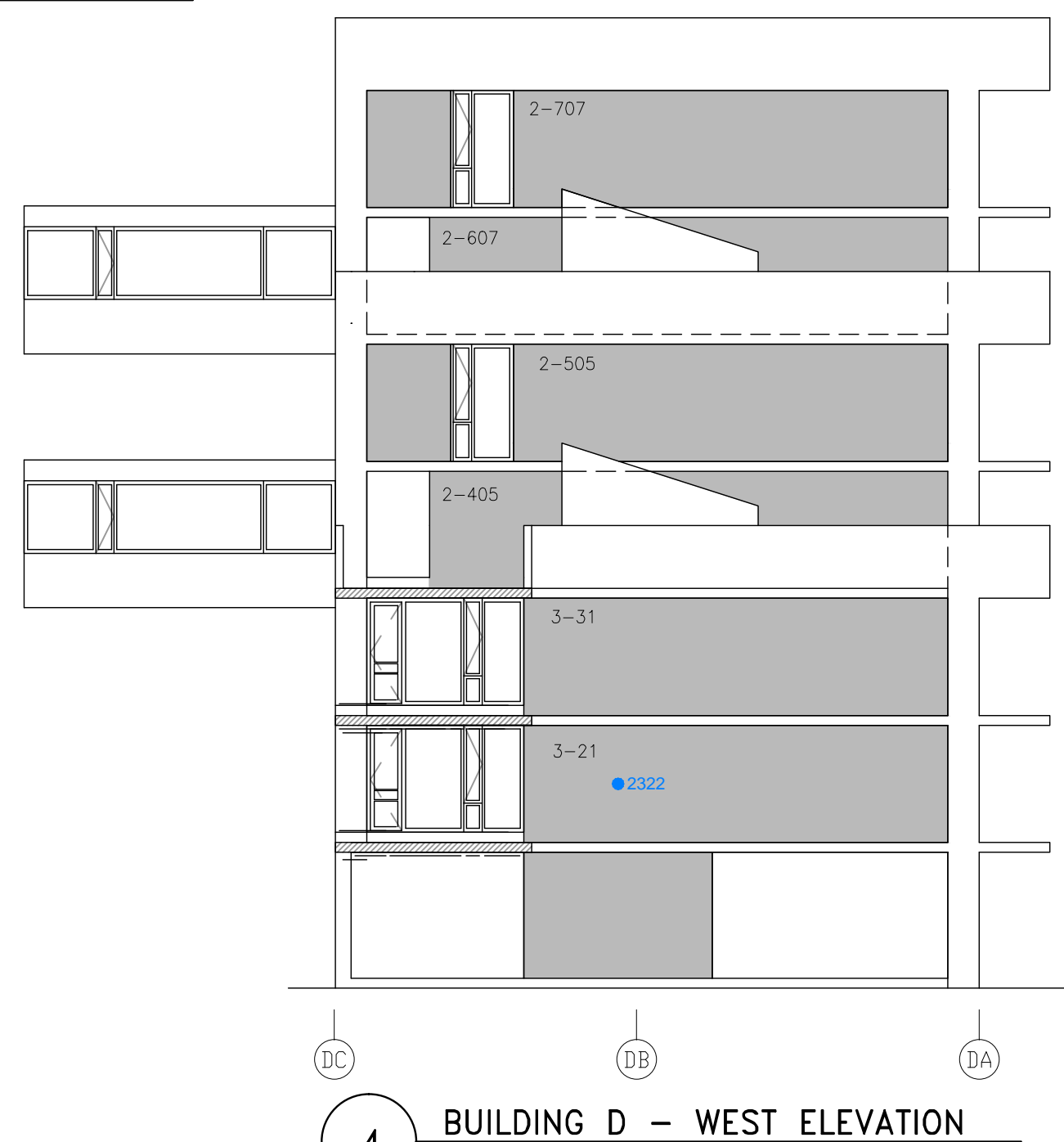
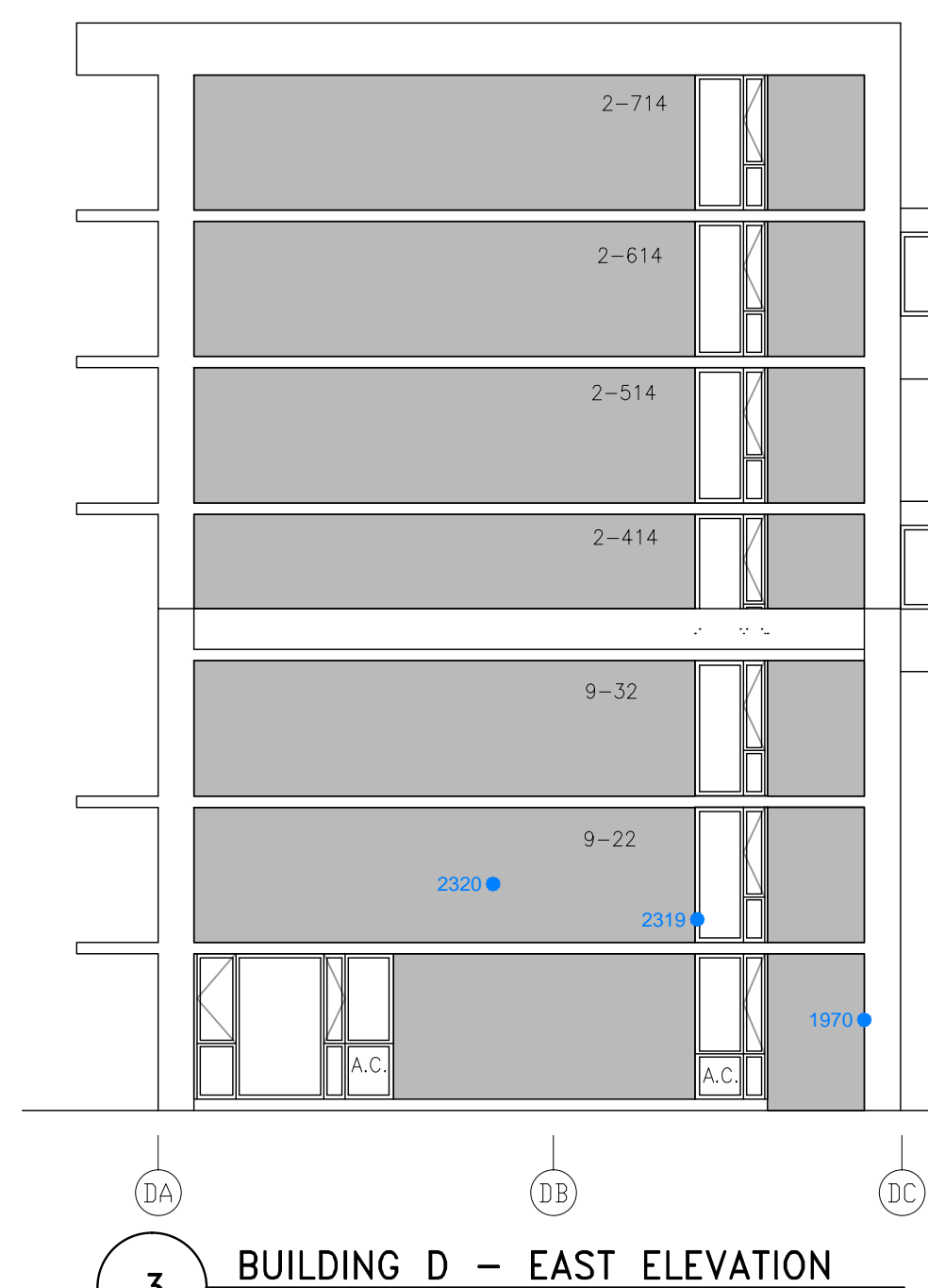
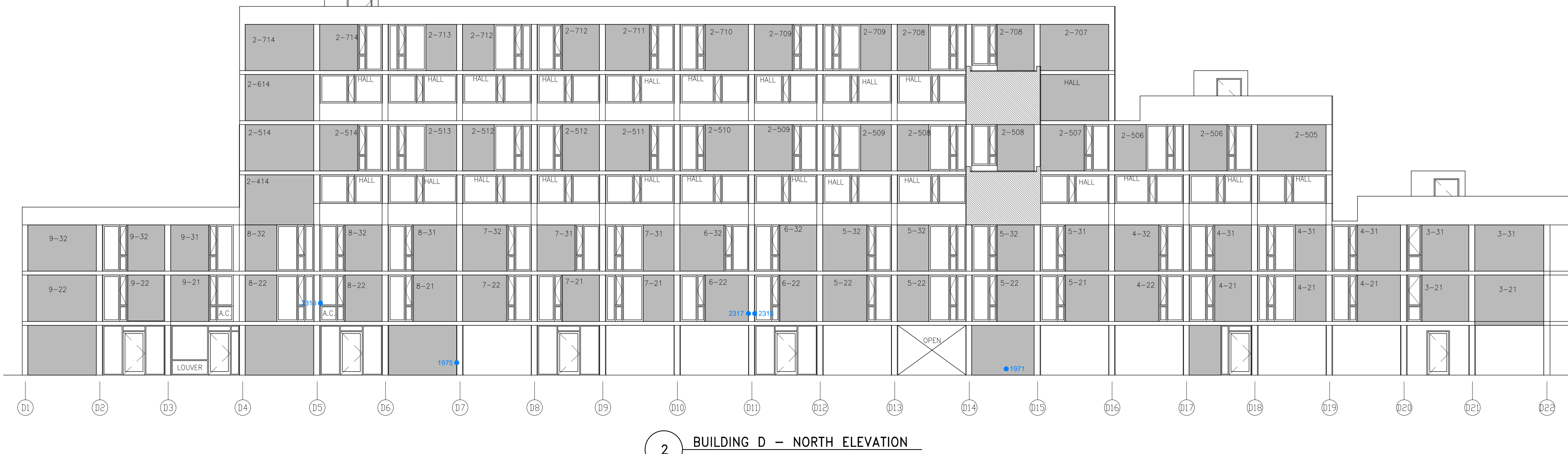
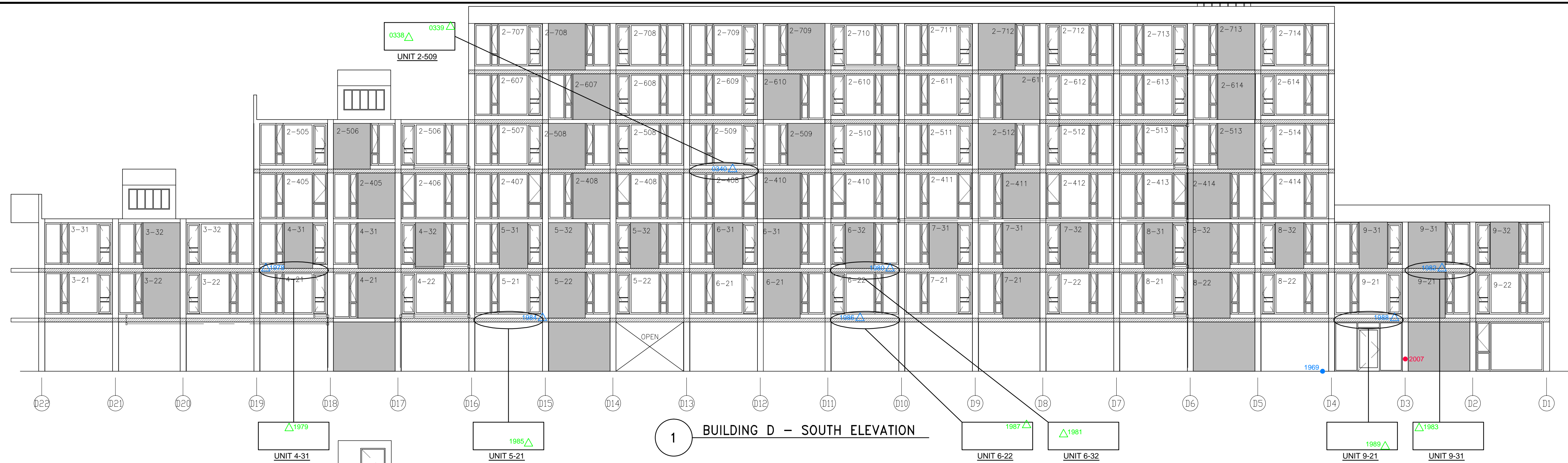
FIGURE 2-2

33 NEW ENGLAND BUSINESS CENTER  
ANDOVER, MASSACHUSETTS 01840  
866.702.6371 | [www.woodardcurran.com](http://www.woodardcurran.com)



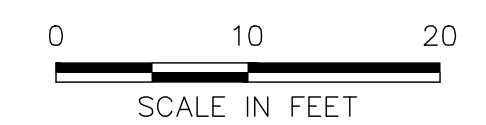
WOODWARD  
& CURRAN

[illegible]



LEGEND

- 1969 ● BULK CAULKING SAMPLE
- 1980 ▲ DIRECT CONTACT WIPE FOLLOWING BALCONY ENCAPSULATION
- 1981 ▲ INDIRECT BALCONY WIPE FOLLOWING ENCAPSULATION
- 2007 ● INDIRECT CONTACT FACADE CONCRETE



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REV	DESCRIPTION	DATE
	DESIGNED BY: ALW	CHECKED BY: JAH
	DRAWN BY: EVR	Figure 2-1, 2-2, 2-3.dwg

## CHARACTERIZATION SAMPLE LOCATIONS – BUILDING D

PEABODY TERRACE  
CAMBRIDGE, MASSACHUSETTS

BUILDING D &amp; Z REMEDIATION PLAN

JOB NO.: 210980
DATE: FEBRUARY 2012
SCALE: AS NOTED
SHEET: OF

FIGURE 2-3

## APPENDIX A: PHOTOGRAPHS



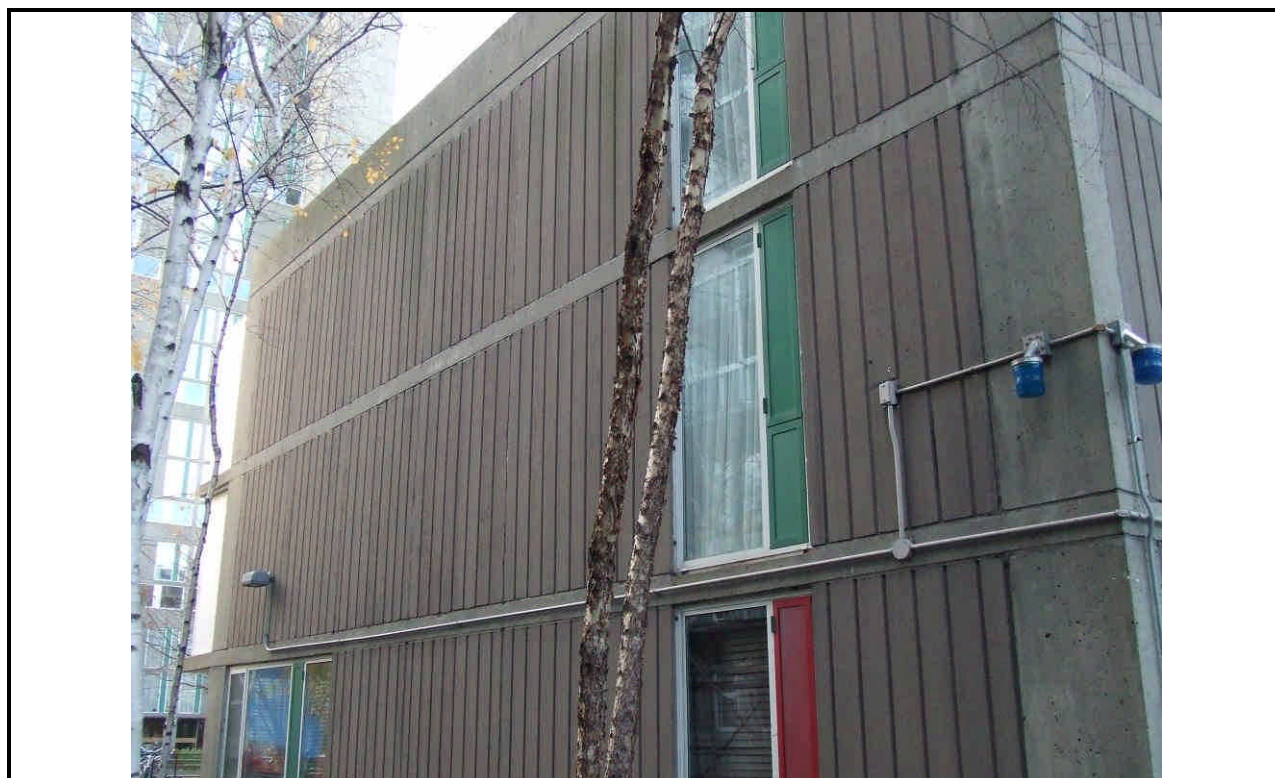


Photo Number: 1

Building D east façade

Photo Date: November 2009



Photo Number: 2

Building D north façade

Photo Date: November 2009





Photo Number: 3

Building D south façade

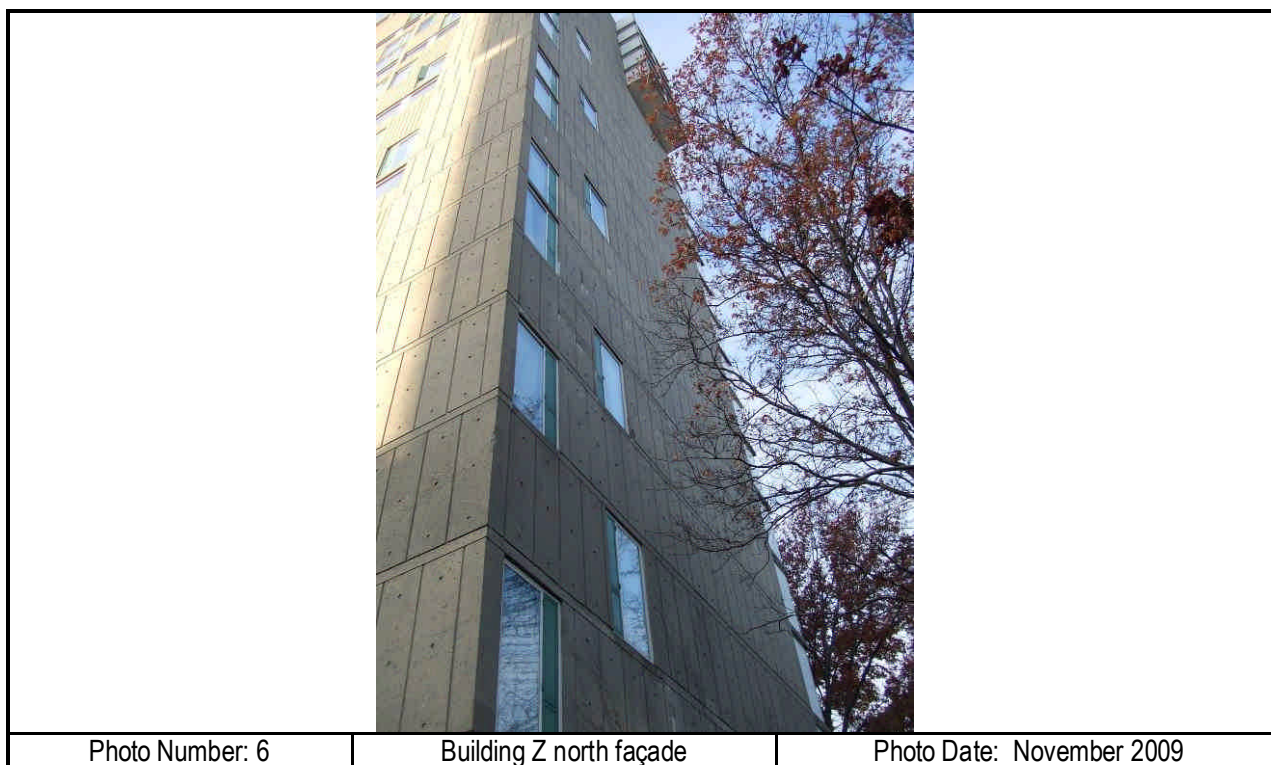
Photo Date: November 2009



Photo Number: 4

Building D west / Building Z west  
façade

Photo Date: November 2009



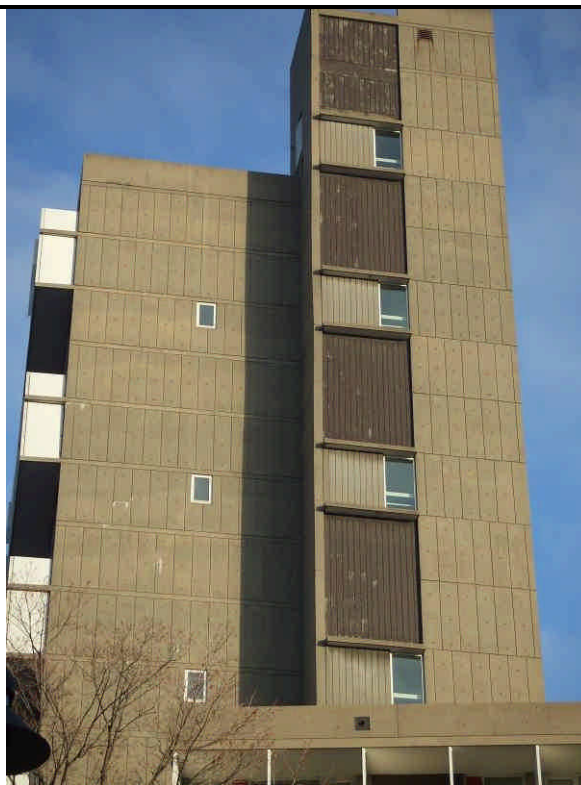


Photo Number: 7

Building Z south façade

Photo Date: November 2009

## **APPENDIX B: LABORATORY ANALYTICAL REPORTS**



195 Commerce Way Suite E  
Portsmouth, New Hampshire 03801  
603-436-5111 Fax 603-430-2151  
800-929-9906  
www.analyticslab.com

December 23, 2009

Ms. Amy Wallace  
Woodard & Curran  
35 NE Business Center Suite 180  
Andover MA 01810

**RE: Analytical Results Case Narrative  
Analytics # 65558  
Peabody Terrace Proj# 210980**

Dear Ms. Wallace;

Enclosed please find the analytical results for samples submitted for the above-mentioned project. The attached Cover Page lists the sample IDs, Lab tracking numbers and collection dates for the samples included in this deliverable.

Samples were analyzed for Polychlorinated Biphenyls (PCBs) by EPA Method 8082.

Unless otherwise noted in the Non-conformance Summary listed below, all of the quality control (QC) criteria including initial calibration, calibration verification, surrogate recovery, holding time and method accuracy/precision for these analyses were within acceptable limits.

This Level II data package has been assembled in the following order:

- Case Narrative/Non-Conformance Summary
- Sample Log Sheet - Cover Page
- PCB Form 1 Data Sheet for Samples and Blanks
- Chromatograms
- PCB Form 10 Confirmation Results
- PCB Form 3 MS/MSD (LCS) Recoveries
- Chain of Custody (COC) Forms

## QC NON-CONFORMANCE SUMMARY

**Sample Receipt:**

No exceptions.

**PCBs by EPA Method 8082:**

No results were reported below the quantitation limit.

If you have any questions on these results, please do not hesitate to contact me.

Sincerely,  
ANALYTICS Environmental Laboratory, LLC

A handwritten signature in black ink, appearing to read "Stephen L. Knollmeyer".

Stephen L. Knollmeyer  
Laboratory Director

Ms. Amy Wallace  
Woodard & Curran  
35 NE Business Center Suite 180  
Andover MA 01810

**Report Number: 65558**

**Revision: Rev. 0**

**Re: Peabody Terrace**

**210980**

Enclosed are the results of the analyses on your sample(s). Samples were received on 08 December 2009 and analyzed for the tests listed below. Samples were received in acceptable condition, with the exceptions noted below or on the chain of custody. These results pertain to samples as received by the laboratory and for the analytical tests requested on the chain of custody. The results reported herein conform to the most current NELAC standards, where applicable, unless otherwise narrated in the body of the report. Please see individual reports for specific methodologies and references.

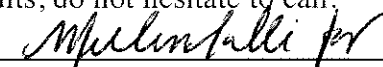
<u>Lab Number</u>	<u>Sample Date</u>	<u>Station Location</u>	<u>Analysis</u>	<u>Comments</u>
65558-1	12/08/09	PTD-CWC-0509-0338	EPA 8082 (PCBs only)	
65558-2	12/08/09	PTD-CWC-0509-0339	EPA 8082 (PCBs only)	
65558-3	12/08/09	PTD-CWC-0509-0340	Electronic Data Deliverable	
	12/08/09	PTD-CWC-0509-0340	EPA 8082 (PCBs only)	

**Sample Receipt Exceptions:** None

Analytics Environmental Laboratory is certified by the states of New Hampshire, Maine, Massachusetts, Connecticut, Rhode Island, New York, Virginia, Maryland, and is validated by the U.S. Navy (NFESC). A list of actual certified parameters is available upon request.

If you have any further question on the analytical methods or these results, do not hesitate to call.

Authorized signature

  
Stephen L. Knollmeyer Lab. Director

Date

12/23/09

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### Surrogate Compound Limits

	Matrix: Units:	Aqueous % Recovery	Solid % Recovery	Method
Volatile Organic Compounds - Drinking Water				
1,4-Difluorobenzene		70-130		EPA 524.2
Bromofluorobenzene		70-130		
1,2-Dichlorobenzene-d4		70-130		
Volatile Organic Compounds				
1,2-Dichloroethane-d4		70-120	70-120	EPA 624/8260B
Toluene-d8		85-120	85-120	
Bromofluorobenzene		75-120	75-120	
Semi-Volatile Organic Compounds				
2-Fluorophenol		20-110	35-105	EPA 625/8270C
d5-Phenol		15-110	40-100	
d5-nitrobenzene		40-110	35-100	
2-Fluorobiphenyl		50-110	45-105	
2,4,6-Tribromophenol		40-110	40-125	
d14-p-terphenyl		50-130	30-125	
PAH's by SIM				
d5-nitrobenzene		21-110	35-110	EPA 8270C
2-Fluorobiphenyl		36-121	45-105	
d14-p-terphenyl		33-141	30-125	
Pesticides and PCBs				
2,4,5,6-Tetrachloro-m-xylene (TCX)		46-122	40-130	EPA 608/8082
Decachlorobiphenyl (DCB)		40-135	40-130	
Herbicides				
Dichloroacetic acid (DCAA0		30-150	30-150	
Gasoline Range Organics/TPH Gasoline				
Trifluorotoluene TFT (FID)		60-140	60-140	MEDEP 4217/EPA 8015
Bromofluorobenzene (BFB) (FID)		60-140	60-140	
Trifluorotoluene TFT (PID)		60-140	60-140	
Bromofluorobenzene (BFB) (PID)		60-140	60-140	
Diesel Range Organics/TPH Diesel				
m-terphenyl		60-140	60-140	MEDEP 4125/EPA 8015/CT ETPH



## PCB DATA SUMMARIES

Ms. Amy Wallace  
Woodard & Curran  
35 NE Business Center Suite 180  
Andover MA 01810

December 23, 2009

**SAMPLE DATA**

**CLIENT SAMPLE ID**

**Project Name:** Peabody Terrace

**Project Number:** 210980

**Field Sample ID:** Lab QC

**Lab Sample ID:** B12169PSOX

**Matrix:** Wipe

**Percent Solid:** N/A

**Dilution Factor:** 1.0

**Collection Date:**

**Lab Receipt Date:**

**Extraction Date:** 12/16/09

**Analysis Date:** 12/17/09

**PCB ANALYTICAL RESULTS**

COMPOUND	Quantitation Limit $\mu\text{g/wipe}$	Results $\mu\text{g/wipe}$
PCB-1016	0.5	U
PCB-1221	0.5	U
PCB-1232	0.5	U
PCB-1242	0.5	U
PCB-1248	0.5	U
PCB-1254	0.5	U
PCB-1260	0.5	U
<b><u>Surrogate Standard Recovery</u></b>		
2,4,5,6-Tetrachloro-m-xylene	89	%
Decachlorobiphenyl	96	%
U=Undetected J=Estimated E=Exceeds Calibration Range B=Detected in		

METHODOLOGY: Sample analysis conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 8082.

Sample preparation conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 3540C.

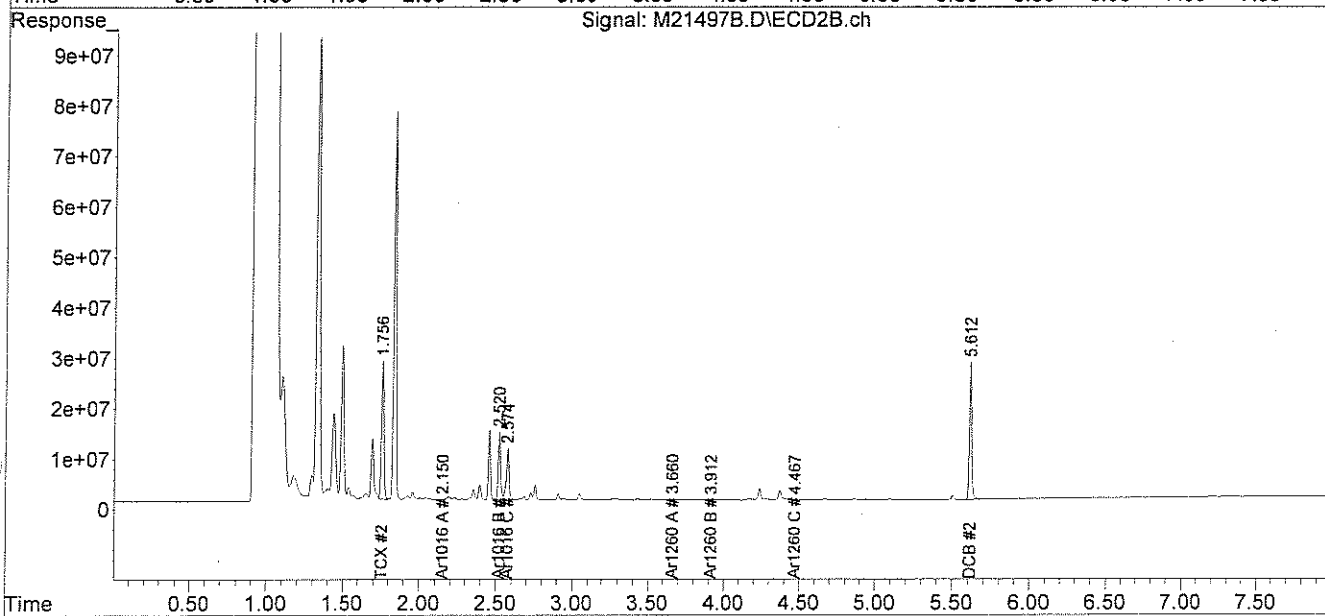
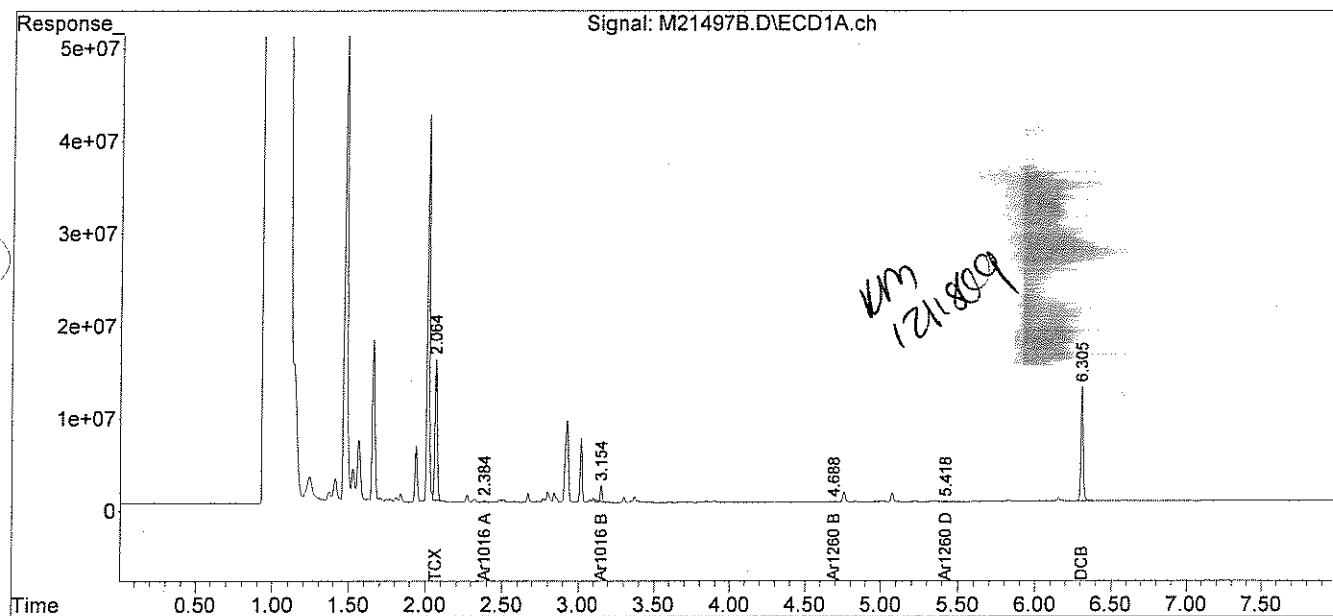
COMMENTS:

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Data File : M21497B.D  
Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch  
Acq On : 17 Dec 2009 5:55 pm  
Operator : RM  
Sample : B12169PSOX,,A/C  
Misc : SOIL  
ALS Vial : 19 Sample Multiplier: 1

Integration File signal 1: events.e  
Integration File signal 2: events2.e  
Quant Time: Dec 18 10:18:40 2009  
Quant Method : C:\msdchem\1\METHODS\PCB11249.M  
Quant Title : Aroclor 1016/1260  
QLast Update : Tue Nov 24 16:14:04 2009  
Response via : Initial Calibration  
Integrator: ChemStation

Volume Inj. :  
Signal #1 Phase : Signal #2 Phase:  
Signal #1 Info : Signal #2 Info :

*12-13-09*



Ms. Amy Wallace  
Woodard & Curran  
35 NE Business Center Suite 180  
Andover MA 01810

December 23, 2009

**SAMPLE DATA**

**CLIENT SAMPLE ID**

**Project Name:** Peabody Terrace  
**Project Number:** 210980  
**Field Sample ID:** PTD-CWC-0509-0338

**Lab Sample ID:** 65558-1  
**Matrix:** Wipe  
**Percent Solid:** N/A  
**Dilution Factor:** 1.0  
**Collection Date:** 12/08/09  
**Lab Receipt Date:** 12/08/09  
**Extraction Date:** 12/16/09  
**Analysis Date:** 12/17/09

**PCB ANALYTICAL RESULTS**

COMPOUND	Quantitation Limit µg/wipe	Results µg/wipe
PCB-1016	0.5	U
PCB-1221	0.5	U
PCB-1232	0.5	U
PCB-1242	0.5	U
PCB-1248	0.5	U
PCB-1254	0.5	U
PCB-1260	0.5	U
<b><u>Surrogate Standard Recovery</u></b>		
2,4,5,6-Tetrachloro-m-xylene	88	%
Decachlorobiphenyl	93	%
U=Undetected J=Estimated E=Exceeds Calibration Range B=Detected in		

METHODOLOGY: Sample analysis conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 8082.

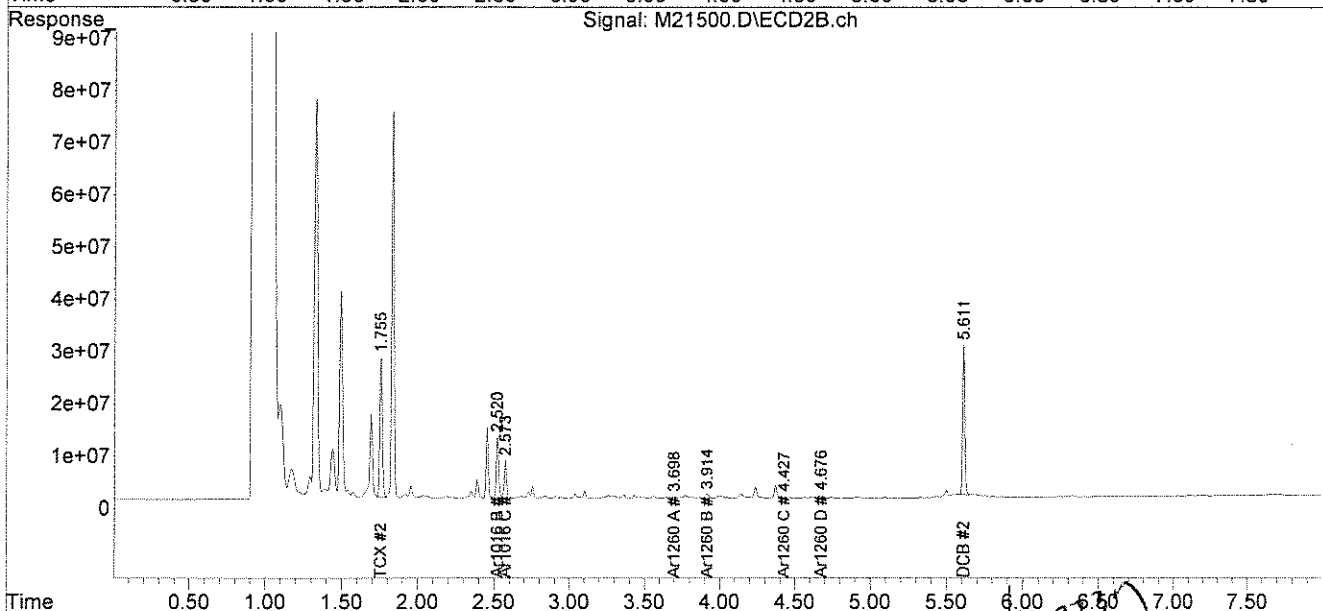
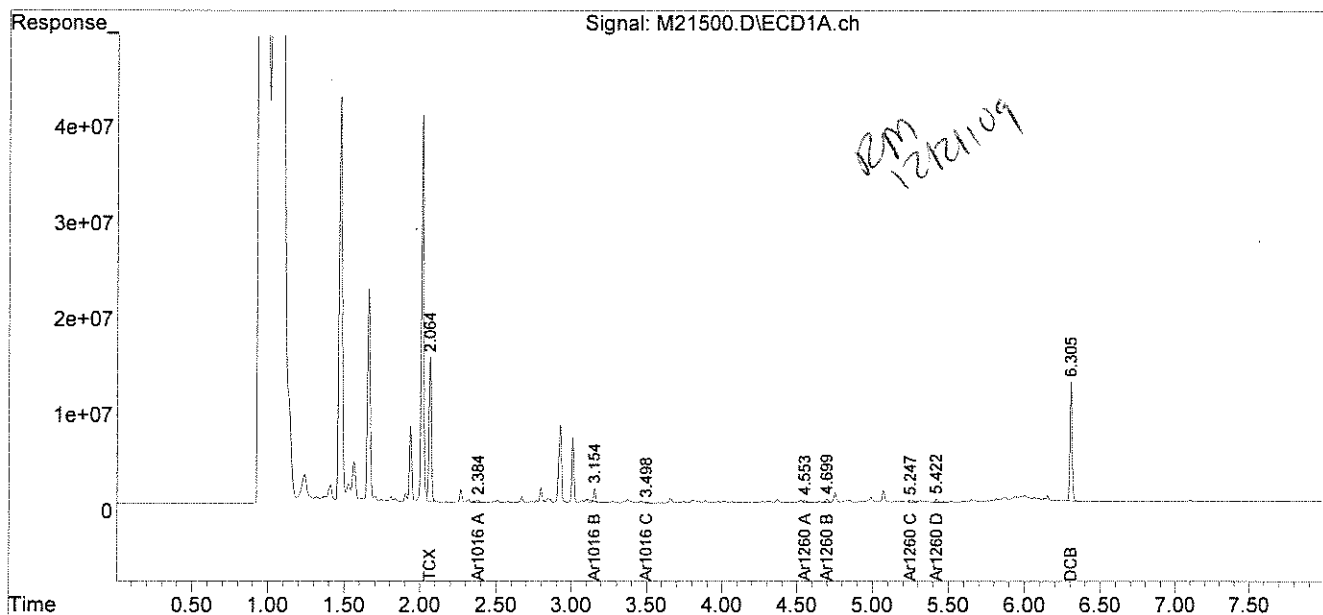
Sample preparation conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 3540C.

COMMENTS:

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Data File : M21500.D  
Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch  
Acq On : 17 Dec 2009 6:26 pm  
Operator : RM  
Sample : 65558-1,,A/C  
Misc : SOIL  
ALS Vial : 22 Sample Multiplier: 1

Integration File signal 1: events.e  
Integration File signal 2: events2.e  
Quant Time: Dec 21 14:59:53 2009  
Quant Method : C:\msdchem\1\METHODS\PCB11249.M  
Quant Title : Aroclor 1016/1260  
QLast Update : Tue Nov 24 16:14:04 2009  
Response via : Initial Calibration  
Integrator: ChemStation

Volume Inj. :  
Signal #1 Phase : Signal #2 Phase:  
Signal #1 Info : Signal #2 Info :



Ms. Amy Wallace  
Woodard & Curran  
35 NE Business Center Suite 180  
Andover MA 01810

December 23, 2009

**SAMPLE DATA**

**CLIENT SAMPLE ID**

**Project Name:** Peabody Terrace  
**Project Number:** 210980  
**Field Sample ID:** PTD-CWC-0509-0339

**Lab Sample ID:** 65558-2  
**Matrix:** Wipe  
**Percent Solid:** N/A  
**Dilution Factor:** 1.0  
**Collection Date:** 12/08/09  
**Lab Receipt Date:** 12/08/09  
**Extraction Date:** 12/16/09  
**Analysis Date:** 12/17/09

**PCB ANALYTICAL RESULTS**

COMPOUND	Quantitation Limit $\mu\text{g/wipe}$	Results $\mu\text{g/wipe}$
PCB-1016	0.5	U
PCB-1221	0.5	U
PCB-1232	0.5	U
PCB-1242	0.5	U
PCB-1248	0.5	U
PCB-1254	0.5	U
PCB-1260	0.5	U
<b>Surrogate Standard Recovery</b>		
2,4,5,6-Tetrachloro-m-xylene	89	%
Decachlorobiphenyl	97	%
U=Undetected J=Estimated E=Exceeds Calibration Range B=Detected in		

METHODOLOGY: Sample analysis conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 8082.

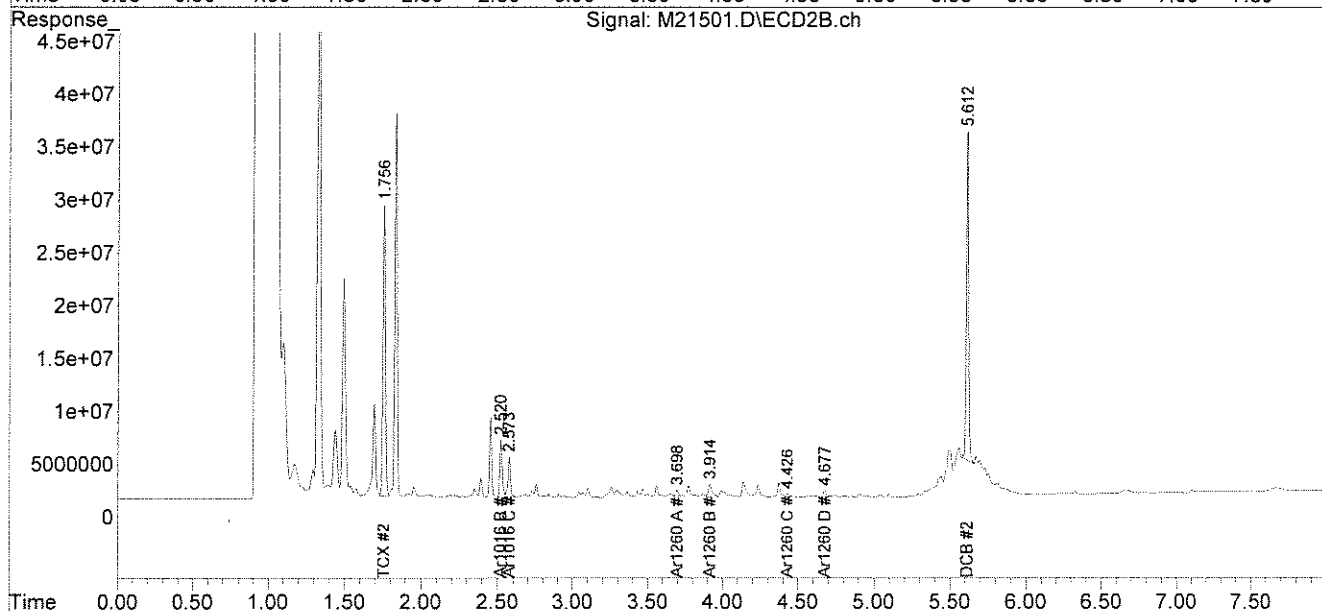
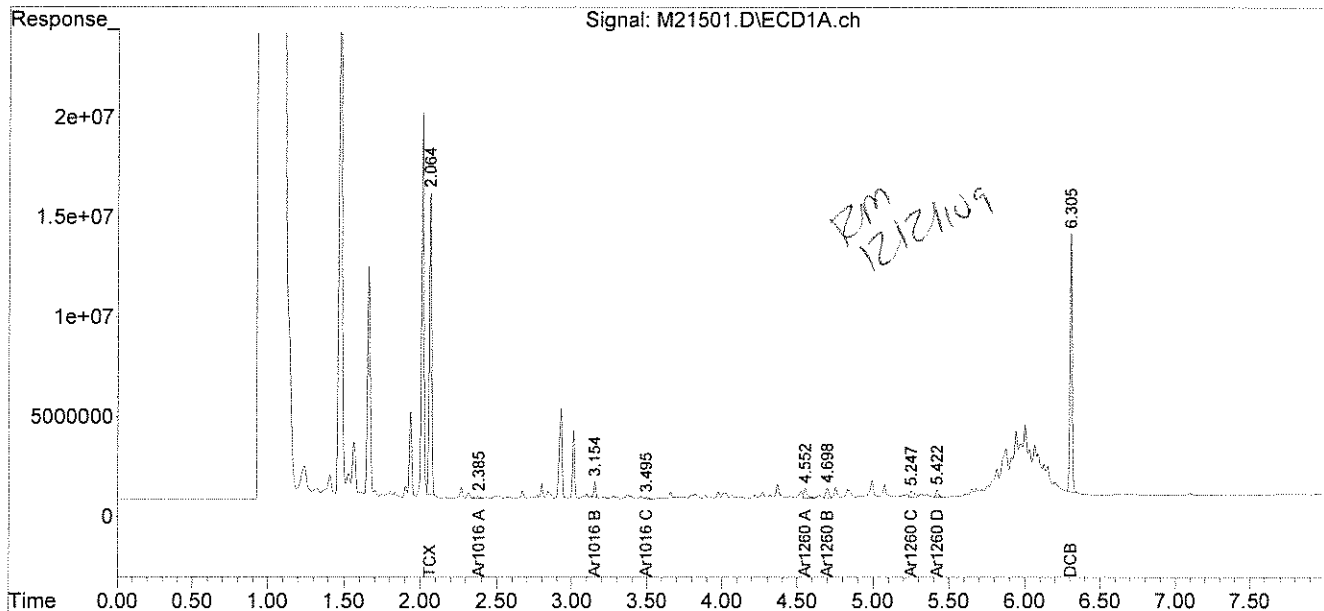
Sample preparation conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 3540C.

COMMENTS:

Data Path : C:\msdchem\1\DATA\121709-M\  
Data File : M21501.D  
Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch  
Acq On : 17 Dec 2009 6:36 pm  
Operator : RM  
Sample : 65558-2,,A/C  
Misc : SOIL  
ALS Vial : 23 Sample Multiplier: 1

Integration File signal 1: events.e  
Integration File signal 2: events2.e  
Quant Time: Dec 21 15:02:46 2009  
Quant Method : C:\msdchem\1\METHODS\PCB11249.M  
Quant Title : Aroclor 1016/1260  
QLast Update : Tue Nov 24 16:14:04 2009  
Response via : Initial Calibration  
Integrator: ChemStation

Volume Inj. :  
Signal #1 Phase : Signal #2 Phase:  
Signal #1 Info : Signal #2 Info :



Ms. Amy Wallace  
Woodard & Curran  
35 NE Business Center Suite 180  
Andover MA 01810

December 23, 2009

**SAMPLE DATA**

**CLIENT SAMPLE ID**

---

**Project Name:** Peabody Terrace  
**Project Number:** 210980  
**Field Sample ID:** PTD-CWC-0509-0340

**Lab Sample ID:** 65558-3  
**Matrix:** Wipe  
**Percent Solid:** N/A  
**Dilution Factor:** 1.0  
**Collection Date:** 12/08/09  
**Lab Receipt Date:** 12/08/09  
**Extraction Date:** 12/16/09  
**Analysis Date:** 12/17/09

**PCB ANALYTICAL RESULTS**

COMPOUND	Quantitation Limit $\mu\text{g/wipe}$	Results $\mu\text{g/wipe}$
PCB-1016	0.5	U
PCB-1221	0.5	U
PCB-1232	0.5	U
PCB-1242	0.5	U
PCB-1248	0.5	U
PCB-1254	0.5	<b>0.6</b>
PCB-1260	0.5	U
<b><u>Surrogate Standard Recovery</u></b>		
2,4,5,6-Tetrachloro-m-xylene	95	%
Decachlorobiphenyl	102	%
U=Undetected J=Estimated E=Exceeds Calibration Range B=Detected in		

METHODOLOGY: Sample analysis conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 8082.

Sample preparation conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 3540C.

COMMENTS:



PCB  
COLUMN RELATIVE PERCENT DIFFERENCE

Instrument ID: M

SDG: 65558

GC Column #1: STX-CLPesticides I

Sample: 65558-3,,A/C

Column ID: 0.25 mm

Data File: M21502.D

GC Column #2: STX-CLPesticides II

Dilution Factor: 1.0

Column ID: 0.25 mm

Column #1		Column #2		#
COMPOUND	SAMPLE RESULT (ug/wipe)	SAMPLE RESULT (ug/wipe)	RPD	
PCB 1254	0.4	0.6	32.5	

# Column to be used to flag RPD values greater than QC limit of 40%

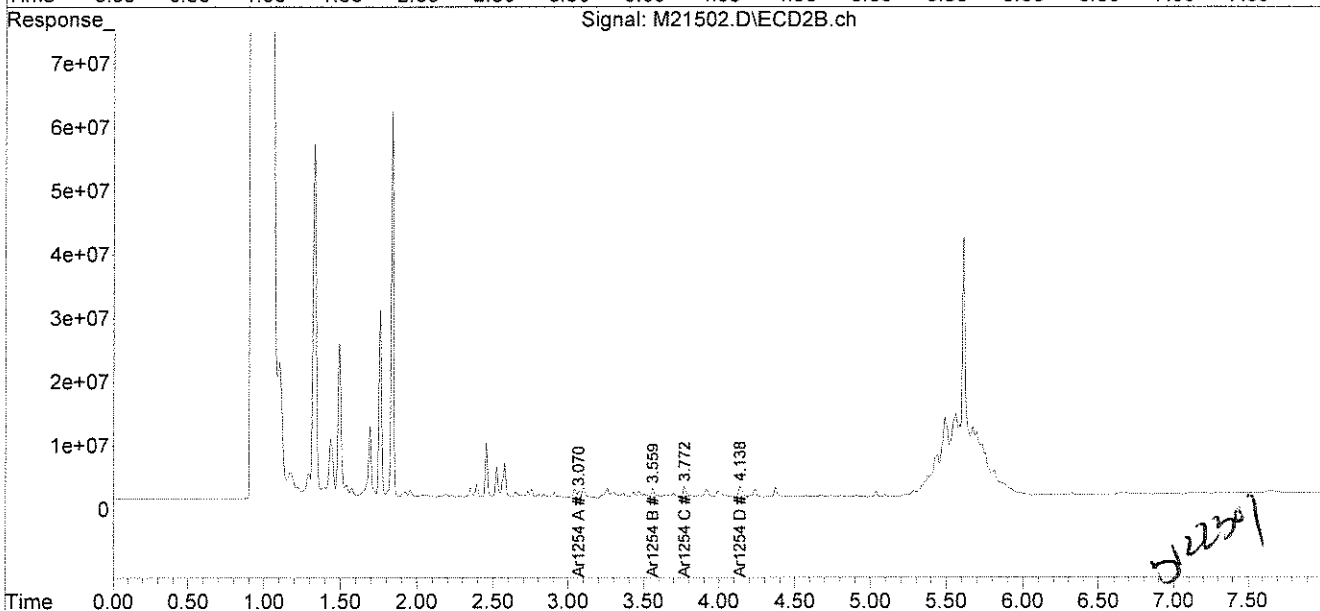
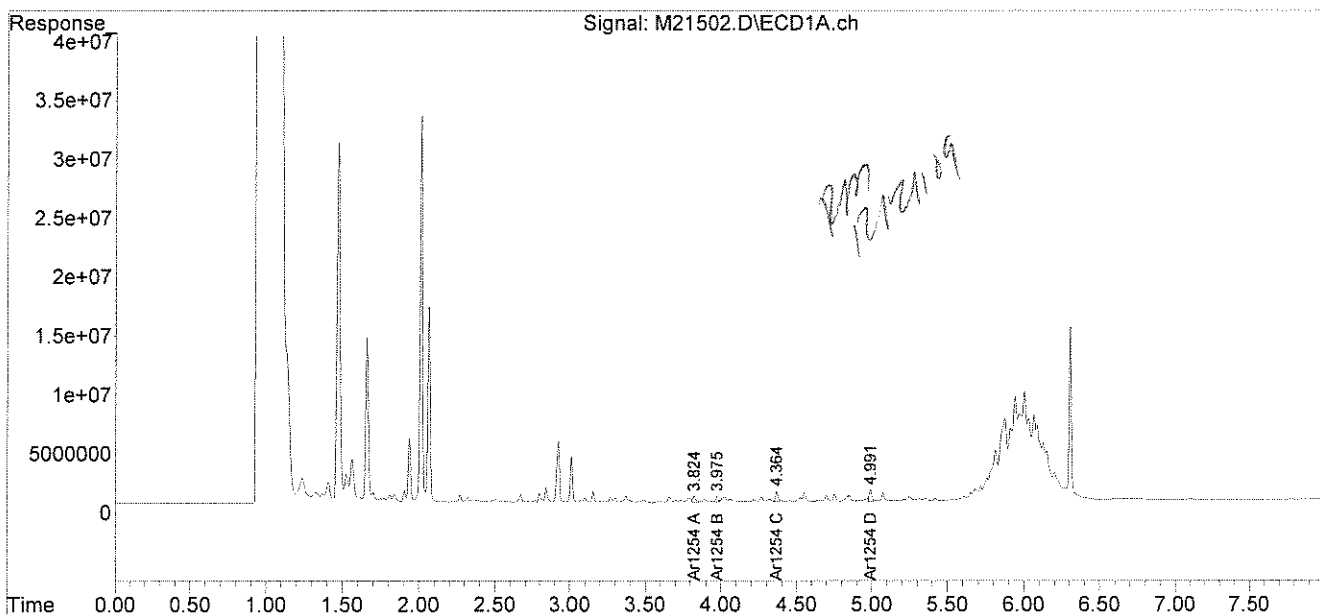
\* Values outside QC limits

Comments: \_\_\_\_\_

Data Path : C:\msdchem\1\DATA\121709-M\  
Data File : M21502.D  
Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch  
Acq On : 17 Dec 2009 6:46 pm  
Operator : RM  
Sample : 65558-3,,A/C  
Misc : SOIL  
ALS Vial : 24 Sample Multiplier: 1

Integration File signal 1: events.e  
Integration File signal 2: events2.e  
Quant Time: Dec 21 15:04:57 2009  
Quant Method : C:\msdchem\1\METHODS\54SP11249.M  
Quant Title :  
QLast Update : Wed Nov 25 15:04:29 2009  
Response via : Initial Calibration  
Integrator: ChemStation

Volume Inj. :  
Signal #1 Phase : Signal #2 Phase:  
Signal #1 Info : Signal #2 Info :



PCB  
QC FORMS



PCB SOIL  
LABORATORY CONTROL SAMPLE/DUPLICATE  
PERCENT RECOVERY

Instrument ID: M

GC Column #1: STX-CLPesticides I

Column ID: 0.25 mm

GC Column #2: STX-CLPesticides II

Column ID: 0.25 mm

SDG:

Non-spiked sample: B12169PSOX,,A/C

Spike: L12169PSOX,,A/C

Spike duplicate: LD12169PSOX,,A/C

	LCS SPIKE	LCSD SPIKE	LOWER	UPPER	RPD	NON-SPIKE	SPIKE	SPIKE	SPIKE DUP	SPIKE DUP			
COMPOUND	ADDED (ug/kg)	ADDED (ug/kg)	LIMIT	LIMIT	LIMIT	RESULT (ug/kg)	RESULT (ug/kg)	% REC	#	RESULT (ug/kg)	% REC	#	RPD
PCB 1016	200	200	65	140	30	0	194	97		188	94		3.5
PCB 1260	200	200	60	130	30	0	189	94		186	93		1.4
PCB 1016 #2	200	200	65	140	30	0	194	97		193	97		0.5
PCB 1260 #2	200	200	60	130	30	0	221	111		219	109		1.0

# Column to be used to flag recovery and RPD values outside of QC limits

\* Values outside QC limits

LCS/LCSD spike added values have been weight adjusted.

Non-spike result of "0" used in place of "U" to allow calculation of spike recovery.

Comments: \_\_\_\_\_  
\_\_\_\_\_

## CHAIN OF CUSTODIES

# Chain Of Custody Form

<b>analytica environmental laboratory LLC</b> 195 Commerce Way Suite E Portsmouth, NH 03801 Phone (603) 436-5111 Fax (603) 430-2151		For Analytics Use Only Rev. 5/06/18/08	
Project#: 210980 Proj. Name: Reabody Terrace Company: Woodard & Curran Contact: Amy Wallace Address: 35 New England Business Center Suite 180 Andover, MA 01810 Phone: (978) 557-8150 PO# Quote # Sampler (Signature): Amy Wallace		Samples were: 1) Shipped or hand-delivered 2) Temp blank °C 50 3) Received in good condition Y or N 4) pH checked by: N/A 5) Labels checked by: 12/16/09	
Matrix Key: C = Concrete WP = Wipe WW = Wastewater SW = Surface Water GW = Groundwater DW = Drinking Water S = Soil/Sludge O = Oil E = Extract		Container Key: P = plastic G = glass	
Preservation Unpres H <sub>2</sub> O <sub>2</sub> H <sub>2</sub> SO <sub>4</sub> HCl Methanol Other		Container number/type Matrix pH Analytics Sample #	
Station Identification Sample Date Sample Time Analysis		Date: 12/8/09 Time: 15:30 Relinquished By: [Signature] Date: 12/8/09 Time: 15:30 Relinquished By: [Signature] Date: 12/8/09 Time: 15:30 Relinquished By: [Signature] Date: 12/8/09 Time: 15:30	
PTD-CWC-0509-0339 12/8/09 13:00 PCB PTD-CWC-0509-0339 12/8 13:02 PCB PTD-CWC-0509-0340 12/8 13:04 PCB		Project Requirements: *Fee may apply Report Type: <input checked="" type="checkbox"/> MCP* <input checked="" type="checkbox"/> Level II* <input type="checkbox"/> Level III* <input type="checkbox"/> Level IV* <input type="checkbox"/> Standard State: <input checked="" type="checkbox"/> NH <input type="checkbox"/> MA <input type="checkbox"/> ME <input type="checkbox"/> CT <input type="checkbox"/> RI State Standard: (eg. S-1 or GW-1) EDD Required: <input checked="" type="checkbox"/> N Type: 615 Very	
Email Results to: amy.wallace@analytica.com Turnaround Time (TAT) <input type="checkbox"/> 24hr* <input checked="" type="checkbox"/> 48hr* <input type="checkbox"/> 5 Days* <input type="checkbox"/> 10 Days*		Comments / Instructions: Please hold until instructed to analyze by WWC 12/16/09 Off hold as per AW's email 12/16/09	

**ANALYTICS SAMPLE RECEIPT CHECKLIST**

AEL LAB#: 65558  
 CLIENT: Woodard  
 PROJECT: Peabody Terrace

COOLER NUMBER: \_\_\_\_\_  
 NUMBER OF COOLERS: 1  
 DATE RECEIVED: 12/8/09

**A: PRELIMINARY EXAMINATION:**

DATE COOLER OPENED: 12/8/09  
 Date Received: MJ 12/8/09

1. Cooler received by (initials)

2. Circle one:

Hand delivered  
 (If so, skip 3)

Shipped

3. Did cooler come with a shipping slip?

Y

N/A

3a. Enter carrier name and airbill number here:

4. Were custody seals on the outside of cooler?

Y

N

How many & where: \_\_\_\_\_ Seal Date: \_\_\_\_\_ Seal Name: \_\_\_\_\_

5. Did the custody seals arrive unbroken and intact upon arrival?

Y

N/A

6. COC#: \_\_\_\_\_

7. Were Custody papers filled out properly (ink, signed, etc)?

Y

N

8. Were custody papers sealed in a plastic bag?

Y

N

9. Did you sign the COC in the appropriate place?

Y

N

10. Was the project identifiable from the COC papers?

Y

N

11. Was enough ice used to chill the cooler?

Y N

Temp. of cooler:

5° on ice

**B. Log-In:** Date samples were logged in:

12/16/09

By: CP

12. Type of packing in cooler (bubble wrap, popcorn)

Y

N

13. Were all bottles sealed in separate plastic bags?

Y

N

14. Did all bottles arrive unbroken and were labels in good condition?

Y

N

15. Were all bottle labels complete (ID, Date, time, etc.)?

Y

N

16. Did all bottle labels agree with custody papers?

Y

N

17. Were the correct containers used for the tests indicated?

Y

N

18. Were samples received at the correct pH?

Y

N/A

19. Was sufficient amount of sample sent for the tests indicated?

Y

N

20. Were bubbles absent in VOA samples?

Y

N/A

If NO, List sample #'s: \_\_\_\_\_

21. Laboratory labeling verified by (initials):

Date:

JSB 12/16/09



January 16, 2012

Ms. Amy Wallace  
Woodard & Curran  
41 Hutchins Drive  
Portland ME 04102

**RE: Analytical Results Case Narrative  
Analytics # 71769 Revision 1  
Peabody Terrace Project No: 210980**

Dear Ms. Wallace;

Enclosed please find the analytical results for samples submitted for the above-mentioned project. The attached Cover Page lists the sample IDs, Lab tracking numbers and collection dates for the samples included in this deliverable.

Samples were analyzed for Polychlorinated Biphenyls (PCBs) by EPA Method 8082.

Revision 1: This report has been revised to include correct sample names on the cover page for 71769-8 thru 71769-11.

Unless otherwise noted in the Non-conformance Summary listed below, all of the quality control (QC) criteria including initial calibration, calibration verification, surrogate recovery, holding time and method accuracy/precision for these analyses were within acceptable limits.

This Level II data package has been assembled in the following order:

- Case Narrative/Non-Conformance Summary
- Sample Log Sheet - Cover Page
- PCB Form 1 Data Sheet for Samples and Blanks
- Chromatograms
- PCB Form 10 Confirmation Results
- PCB Form 3 MS/MSD (LCS) Recoveries
- Chain of Custody (COC) Forms

### QC NON-CONFORMANCE SUMMARY

**Sample Receipt:**

The sample ID for 71769-8 thru 71769-11 did not match the sample IDs written on the chain of custody form. The client informed the laboratory to use the sample IDs on the label as the correct sample IDs for the report.

**PCBs by EPA Method 8082:**

No results were reported below the quantitation limit.

If you have any questions on these results, please do not hesitate to contact me.

Sincerely,  
ANALYTICS Environmental Laboratory, LLC



Stephen L. Knollmeyer  
Laboratory Director

Ms. Amy Wallace  
Woodard & Curran  
41 Hutchins Drive  
Portland ME 04102

**Report Number: 71769**

**Revision: Rev. 1**

**Re: Peabody Terrace (Project No: 210980)**

Enclosed are the results of the analyses on your sample(s). Samples were received on 09 December 2011 and analyzed for the tests listed. Samples were received in acceptable condition, with the exceptions noted below or on the chain of custody. These results pertain to samples as received by the laboratory and for the analytical tests requested on the chain of custody. The results reported herein conform to the most current NELAC standards, where applicable, unless otherwise narrated in the body of the report. Please see individual reports for specific methodologies and references.

**Sample Analysis:** The attached pages detail the Client Sample IDs, Lab Sample IDs, and Analyses requested

**Sample Receipt Exceptions:** None

Analytics Environmental Laboratory is certified by the states of New Hampshire, Maine, Massachusetts, Connecticut, Rhode Island, Virginia, Maryland, North Carolina, and is accredited by the Department of Defense (DOD) ELAP program. A list of actual certified parameters is available upon request.

If you have any questions on these results, please do not hesitate to contact us.

Authorized signature

  
Stephen L. Knollmeyer Lab. Director

Date

1/16/2012

**This report shall not be reproduced, except in full, without the written consent of Analytics Environmental Laboratory, LLC.**

**CLIENT: Woodard & Curran**

**REPORT NUMBER: 71769**

**REV: Rev. 1**

**PROJECT: Peabody Terrace (Project No: 210980)**

<u>Lab Number</u>	<u>Sample Date</u>	<u>Station Location</u>	<u>Analysis</u>	<u>Comments</u>
71769-1	12/08/11	PTD-CBK-S-1969	EPA 8082 (PCBs only)	
71769-2	12/08/11	PTD-CBK-E-1970	EPA 8082 (PCBs only)	
71769-3	12/08/11	PTD-CBK-N-1971	EPA 8082 (PCBs only)	
71769-4	12/08/11	PTZ-CBK-E-1972	EPA 8082 (PCBs only)	
71769-5	12/08/11	PTZ-CBK-W-1973	EPA 8082 (PCBs only)	
71769-6	12/08/11	PTZ-CBK-W-1974	EPA 8082 (PCBs only)	
71769-7	12/08/11	PTD-CBK-N-1975	EPA 8082 (PCBs only)	
71769-8	12/08/11	PTD-CWK-S-1978	EPA 8082 (PCBs only)	
71769-9	12/08/11	PTD-CWC-S-1979	EPA 8082 (PCBs only)	
71769-10	12/08/11	PTD-CWK-S-1980	EPA 8082 (PCBs only)	
71769-11	12/08/11	PTD-CWC-S-1981	EPA 8082 (PCBs only)	
71769-12	12/08/11	PTD-CWK-S-1982	EPA 8082 (PCBs only)	
71769-13	12/08/11	PTD-CWC-S-1983	EPA 8082 (PCBs only)	
71769-14	12/08/11	PTD-CWK-S-1984	EPA 8082 (PCBs only)	
71769-15	12/08/11	PTD-CWC-S-1985	EPA 8082 (PCBs only)	
71769-16	12/08/11	PTD-CWK-S-1986	EPA 8082 (PCBs only)	
71769-17	12/08/11	PTD-CWC-S-1987	EPA 8082 (PCBs only)	
71769-18	12/08/11	PTD-CWK-S-1988	EPA 8082 (PCBs only)	
71769-19	12/08/11	PTD-CWC-S-1989	Electronic Data Deliverable	
	12/08/11	PTD-CWC-S-1989	EPA 8082 (PCBs only)	

### MassDEP Analytical Protocol Certification Form

Laboratory Name: Analytics Environmental Laboratory, LLC

Project #: 71769

Project Location: Peabody Terrace

RTN:

**This Form provides certifications for the following data set. Laboratory Sample ID Number(s):**

71769-1 through 71769-19

Matrices: ☐ Groundwater/Surface Water ☐ Soil/Sediment ☐ Drinking Water ☐ Air ☒ Other

**CAM Protocol** (check all that apply below):

8260 VOC CAM II A <input type="checkbox"/>	7470/7471 Hg CAM III B <input type="checkbox"/>	MassDEP VPH CAM IV A <input type="checkbox"/>	8081 Pesticides CAM V B <input type="checkbox"/>	7196 Hex Cr CAM VI B <input type="checkbox"/>	MassDEP APH CAM IX A <input type="checkbox"/>
8270 SVOC CAM II B <input type="checkbox"/>	7010 Metals CAM III C <input type="checkbox"/>	MassDEP EPH CAM IV B <input type="checkbox"/>	8151 Herbicides CAM V C <input type="checkbox"/>	8330 Explosives CAM VIII A <input type="checkbox"/>	TO-15 VOC CAM IX B <input type="checkbox"/>
6010 Metals CAM III A <input type="checkbox"/>	6020 Metals CAM III D <input type="checkbox"/>	8082 PCB CAM V A <input checked="" type="checkbox"/>	9014 Total Cyanide/PAC CAM VI A <input type="checkbox"/>	6860 Perchlorate CAM VIII B <input type="checkbox"/>	

**Affirmative Responses to Questions A through F are required for "Presumptive Certainty" status**

<b>A</b>	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
<b>B</b>	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
<b>C</b>	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
<b>D</b>	Does the laboratory report comply with all reporting requirements specified in CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data"?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
<b>E</b>	a. VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? (Refer to individual method(s) for a list of significant modifications). b. APH and TO-15 Methods only: Was the complete analyte list reported for each method?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Yes <input type="checkbox"/> No
<b>F</b>	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No

**Responses to Questions G, H and I below are required for "Presumptive Certainty" status**


<b>G</b>	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <sup>1</sup>
----------	---	--

**Data User Note: Data that achieve "Presumptive Certainty" status may not necessarily meet the data usability and representativeness requirements described in 310 CMR 40.1056 (2)(k) and WSC-07-350.**

<b>H</b>	Were ALL QC performance standards specified in the CAM protocol(s) achieved?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <sup>1</sup>
<b>I</b>	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <sup>1</sup>

<sup>1</sup> All negative responses must be addressed in an attached laboratory narrative.

**I, the undersigned, attest under the pains and penalties of perjury that, based upon my personal inquiry of those responsible for obtaining the information, the material contained in this analytical report is, to the best of my knowledge and belief, accurate and complete.**

Signature:  Position: Laboratory Director

Printed Name: Stephen L. Knollmeyer

Date: December 16, 2011

### Surrogate Compound Limits

	Matrix: Units:	Aqueous % Recovery	Solid % Recovery	Method
<b>Volatile Organic Compounds - Drinking Water</b>				
1,4-Difluorobenzene		70-130		EPA 524.2
Bromofluorobenzene		70-130		
1,2-Dichlorobenzene-d4		70-130		
<b>Volatile Organic Compounds</b>				
1,2-Dichloroethane-d4		70-120	70-120	EPA 624/8260B
Toluene-d8		85-120	85-120	
Bromofluorobenzene		75-120	75-120	
<b>Semi-Volatile Organic Compounds</b>				
2-Fluorophenol		20-110	35-105	EPA 625/8270C
d5-Phenol		15-110	40-100	
d5-nitrobenzene		40-110	35-100	
2-Fluorobiphenyl		50-110	45-105	
2,4,6-Tribromophenol		40-110	40-125	
d14-p-terphenyl		50-130	30-125	
<b>PAH's by SIM</b>				
d5-nitrobenzene		21-110	35-110	EPA 8270C
2-Fluorobiphenyl		36-121	45-105	
d14-p-terphenyl		33-141	30-125	
<b>Pesticides and PCBs</b>				
2,4,5,6-Tetrachloro-m-xylene (TCX)		46-122	40-130	EPA 608/8082
Decachlorobiphenyl (DCB)		40-135	40-130	
<b>Herbicides</b>				
Dichloroacetic acid (DCAA)		30-150	30-150	
<b>Gasoline Range Organics/TPH Gasoline</b>				
Trifluorotoluene TFT (FID)		60-140	60-140	MEDEP 4217/EPA 8015
Bromofluorobenzene (BFB) (FID)		60-140	60-140	
Trifluorotoluene TFT (PID)		60-140	60-140	
Bromofluorobenzene (BFB) (PID)		60-140	60-140	
<b>Diesel Range Organics/TPH Diesel</b>				
m-terphenyl		60-140	60-140	MEDEP 4125/EPA 8015/CT ETPH
<b>Volatile Petroleum Hydrocarbons</b>				
2,5-Dibromotoluene (PID)		70-130	70-130	MADEP VPH May 2004 Rev1.1
2,5-Dibromotoluene (FID)		70-130	70-130	
<b>Extracatable Petroleum Hydrocarbons</b>				
1-chloro-octadecane (aliphatic)		40-140	40-140	MADEP EPH May 2004 Rev1.1
o-Terphenyl (aromatic)		40-140	40-140	
2-Fluorobiphenyl (Fractionation)		40-140	40-140	
2-Bromonaphthalene (fractionation)		40-140	40-140	



PCB  
DATA SUMMARIES

Ms. Amy Wallace  
Woodard & Curran  
41 Hutchins Drive  
Portland ME 04102

December 16, 2011

**SAMPLE DATA**

**CLIENT SAMPLE ID**

**Project Name:** Peabody Terrace

**Project Number:** 210980

**Field Sample ID:** Lab QC

**Lab Sample ID:** B121411PSOX

**Matrix:** Soil

**Percent Solid:** 100

**Dilution Factor:** 1.0

**Collection Date:**

**Lab Receipt Date:**

**Extraction Date:** 12/14/11

**Analysis Date:** 12/15/11

**PCB ANALYTICAL RESULTS**

COMPOUND	Quantitation Limit $\mu\text{g/kg}$	Results $\mu\text{g/kg}$
PCB-1016	33	U
PCB-1221	33	U
PCB-1232	33	U
PCB-1242	33	U
PCB-1248	33	U
PCB-1254	33	U
PCB-1260	33	U
PCB-1262	33	U
PCB-1268	33	U
<b><u>Surrogate Standard Recovery</u></b>		
2,4,5,6-Tetrachloro-m-xylene	80	%
Decachlorobiphenyl	61	%
U=Undetected J=Estimated E=Exceeds Calibration Range B=Detected in Blank		

**METHODOLOGY:** Sample analysis conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 8082.  
Sample preparation conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 3540C.  
Sample cleanup was conducted according to SW-846 Method 3665A.

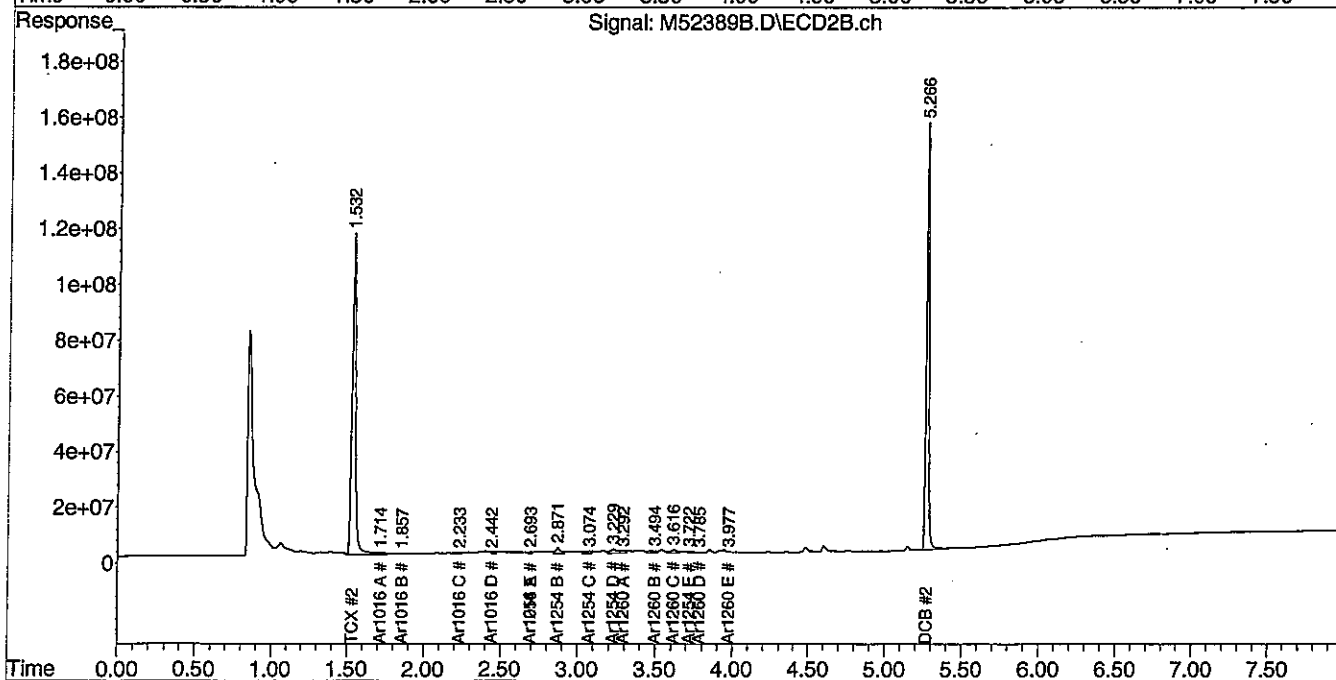
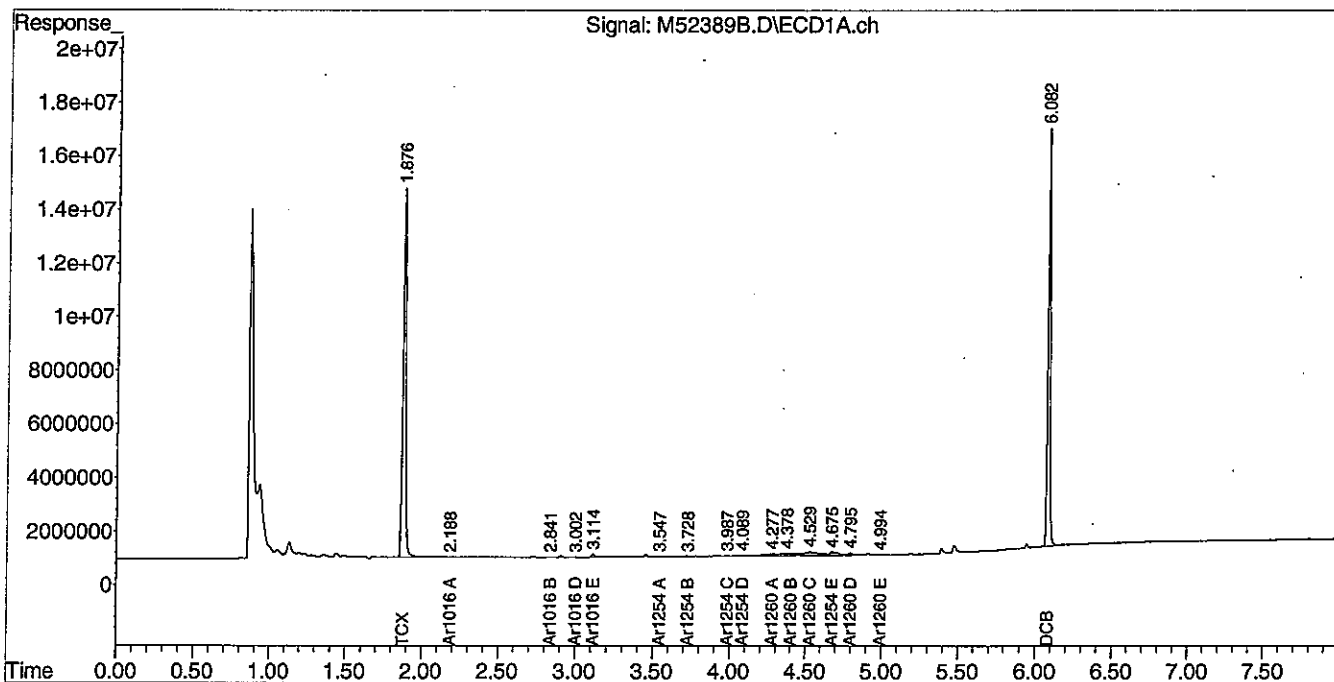
**COMMENTS:** Results are expressed on a dry weight basis.



Data Path : C:\msdchem\1\DATA\121511-M\  
Data File : M52389B.D  
Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch  
Acq On : 15 Dec 2011 1:08 pm  
Operator : JK  
Sample : B121411PSOX,,A/C  
Misc : SOIL  
ALS Vial : 6 Sample Multiplier: 1

Integration File signal 1: events.e  
Integration File signal 2: events2.e  
Quant Time: Dec 16 09:40:13 2011  
Quant Method : C:\msdchem\1\METHODS\PCB120711.M  
Quant Title : SW-846 METHOD 8082 Aroclor 1016/1260/1254  
QLast Update : Wed Dec 14 08:30:50 2011  
Response via : Initial Calibration  
Integrator: ChemStation

Volume Inj. : 2 uL  
Signal #1 Phase : STX-CLPPesticides Signal #2 Phase: STX-CLPPesticides  
Signal #1 Info : 30 m x 0.25mm x 0.25 um Signal #2 Info : 30 m x 0.25mm x 0.25 um



Ms. Amy Wallace  
Woodard & Curran  
41 Hutchins Drive  
Portland ME 04102

December 15, 2011

**SAMPLE DATA**

**CLIENT SAMPLE ID**

**Project Name:** Peabody Terrace

**Project Number:** 210980

**Field Sample ID:** Lab QC

**Lab Sample ID:** B121211PSOX2

**Matrix:** Soil

**Percent Solid:** 100

**Dilution Factor:** 1.0

**Collection Date:**

**Lab Receipt Date:**

**Extraction Date:** 12/12/11

**Analysis Date:** 12/14/11

**PCB ANALYTICAL RESULTS**

COMPOUND	Quantitation Limit $\mu\text{g/kg}$	Results $\mu\text{g/kg}$
PCB-1016	33	U
PCB-1221	33	U
PCB-1232	33	U
PCB-1242	33	U
PCB-1248	33	U
PCB-1254	33	U
PCB-1260	33	U
PCB-1262	33	U
PCB-1268	33	U
<b><u>Surrogate Standard Recovery</u></b>		
2,4,5,6-Tetrachloro-m-xylene	90	%
Decachlorobiphenyl	61	%
U=Undetected J=Estimated E=Exceeds Calibration Range B=Detected in Blank		

**METHODOLOGY:** Sample analysis conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 8082.  
Sample preparation conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 3540C.

**COMMENTS:** Results are expressed on a dry weight basis.

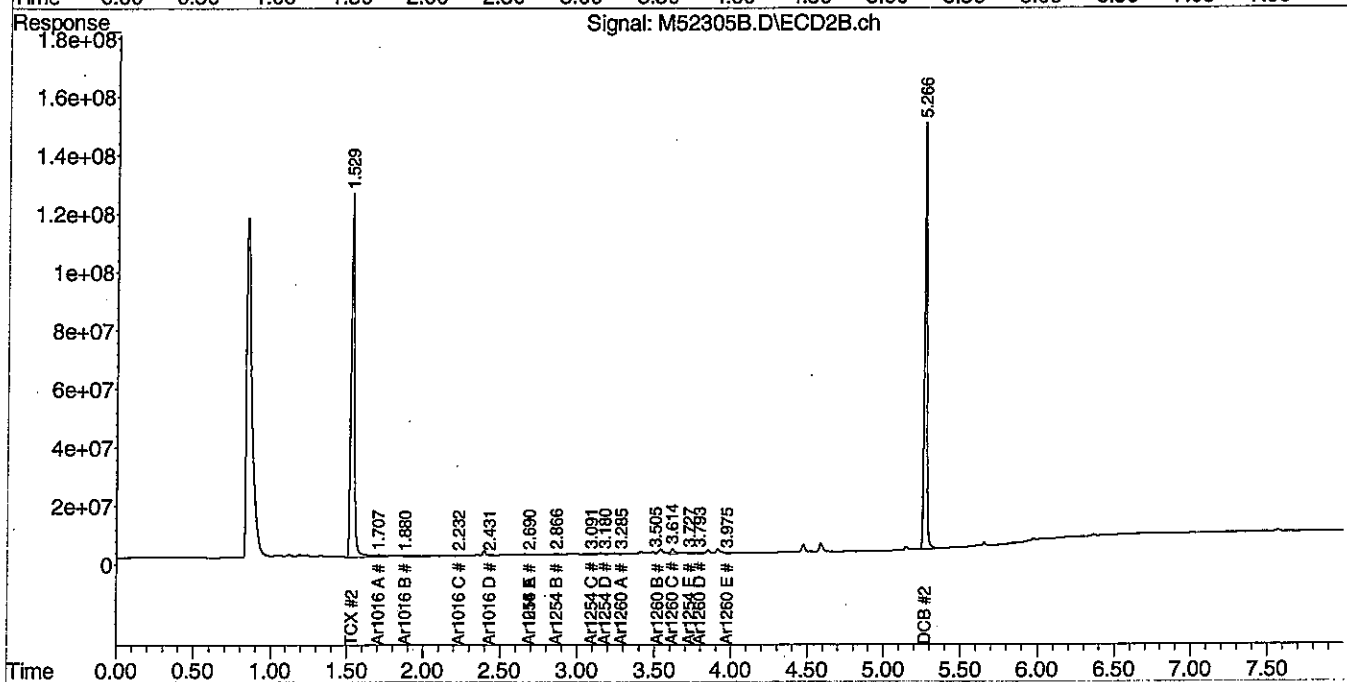
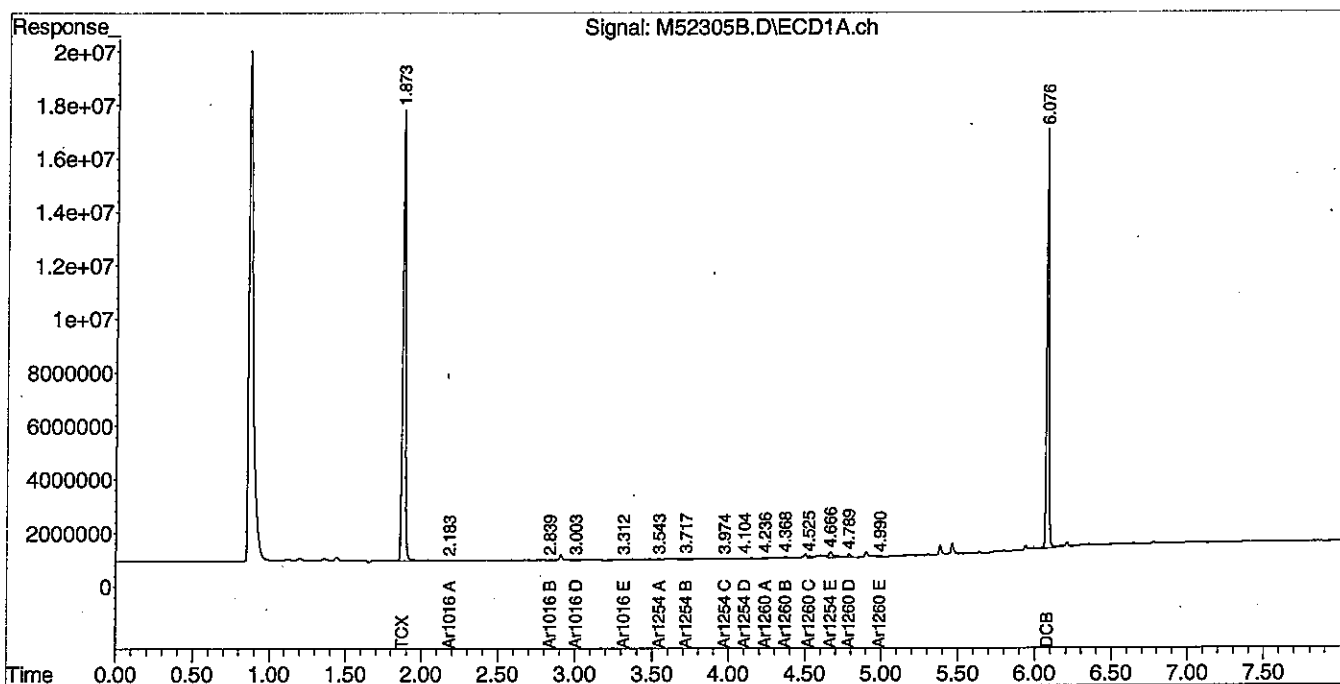
PCB EXT Report

Authorized signature 

Data Path : C:\msdchem\1\DATA\121411-M\  
 Data File : M52305B.D  
 Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch  
 Acq On : 14 Dec 2011 2:56 pm  
 Operator : JK  
 Sample : B121211PSOX2,,A/C  
 Misc : SOIL  
 ALS Vial : 6 Sample Multiplier: 1

Integration File signal 1: events.e  
 Integration File signal 2: events2.e  
 Quant Time: Dec 15 09:08:59 2011  
 Quant Method : C:\msdchem\1\METHODS\PCB120711.M  
 Quant Title : SW-846 METHOD 8082 Aroclor 1016/1260/1254  
 QLast Update : Wed Dec 14 08:30:50 2011  
 Response via : Initial Calibration  
 Integrator: ChemStation

Volume Inj. : 2 uL  
 Signal #1 Phase : STX-CLPPesticides Signal #2 Phase: STX-CLPPesticides  
 Signal #1 Info : 30 m x 0.25mm x 0.25 um Signal #2 Info : 30 m x 0.25mm x 0.25 um



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December 15, 2011

**SAMPLE DATA**

**CLIENT SAMPLE ID**

**Project Name:** Peabody Terrace  
**Project Number:** 210980  
**Field Sample ID:** PTD-CBK-S-1969

**Lab Sample ID:** 71769-1  
**Matrix:** Solid  
**Percent Solid:** 100  
**Dilution Factor:** 58  
**Collection Date:** 12/08/11  
**Lab Receipt Date:** 12/09/11  
**Extraction Date:** 12/12/11  
**Analysis Date:** 12/14/11

**PCB ANALYTICAL RESULTS**

COMPOUND	Quantitation Limit $\mu\text{g/kg}$	Results $\mu\text{g/kg}$
PCB-1016	1910	U
PCB-1221	1910	U
PCB-1232	1910	U
PCB-1242	1910	30200
PCB-1248	1910	U
PCB-1254	1910	U
PCB-1260	1910	U
PCB-1262	1910	U
PCB-1268	1910	U
<b>Surrogate Standard Recovery</b>		
2,4,5,6-Tetrachloro-m-xylene	89	%
Decachlorobiphenyl	80	%
U=Undetected J=Estimated E=Exceeds Calibration Range B=Detected in Blank		

**METHODOLOGY:** Sample analysis conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 8082.  
Sample preparation conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 3540C.

**COMMENTS:** Results are expressed on a dry weight basis.

PCB EXT Report

Authorized signature



PCB  
COLUMN RELATIVE PERCENT DIFFERENCE

Instrument ID: M

SDG: 71769

GC Column #1: STX-CLPesticides I

Sample: 71769-1,1:10,,A/C

Column ID: 0.25 mm

Data File: M52320.D

GC Column #2: STX-CLPesticides II

Dilution Factor: 57.8

Column ID: 0.25 mm

Column #1		Column #2		RPD	#
COMPOUND	SAMPLE RESULT (ug/kg)	SAMPLE RESULT (ug/kg)			
PCB 1242	27435	30256		9.8	

# Column to be used to flag RPD values greater than QC limit of 40%

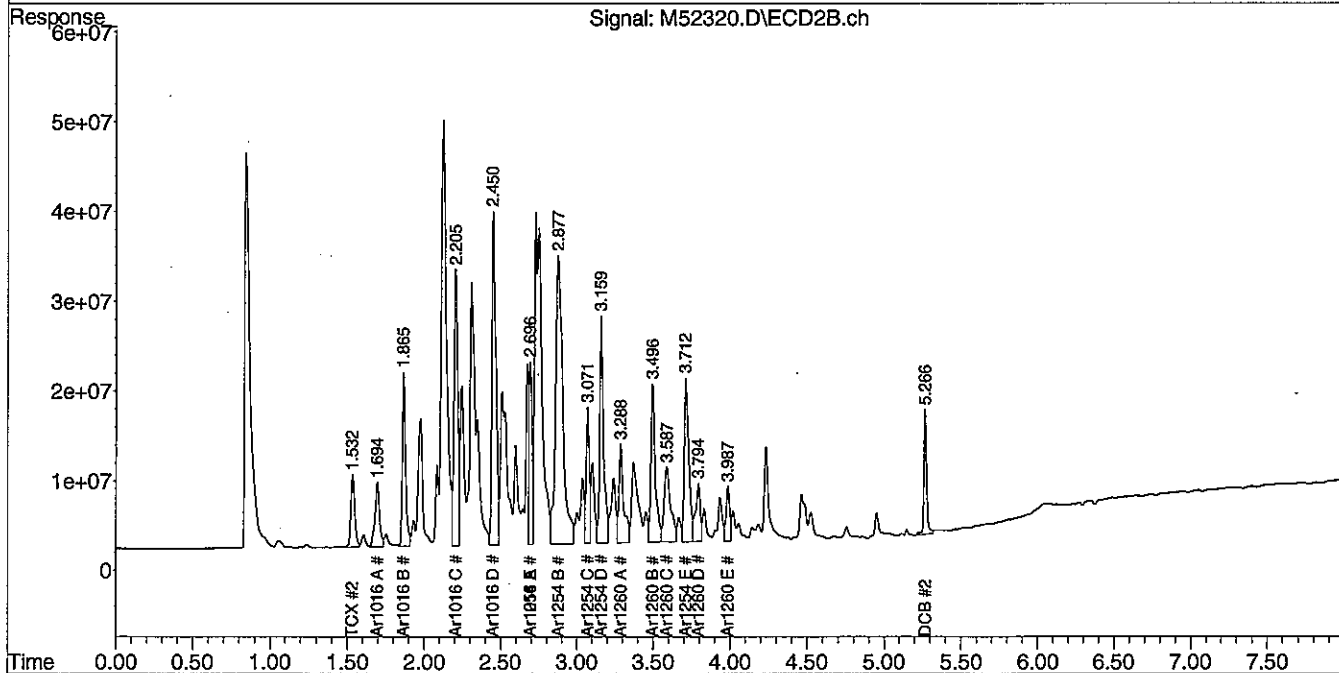
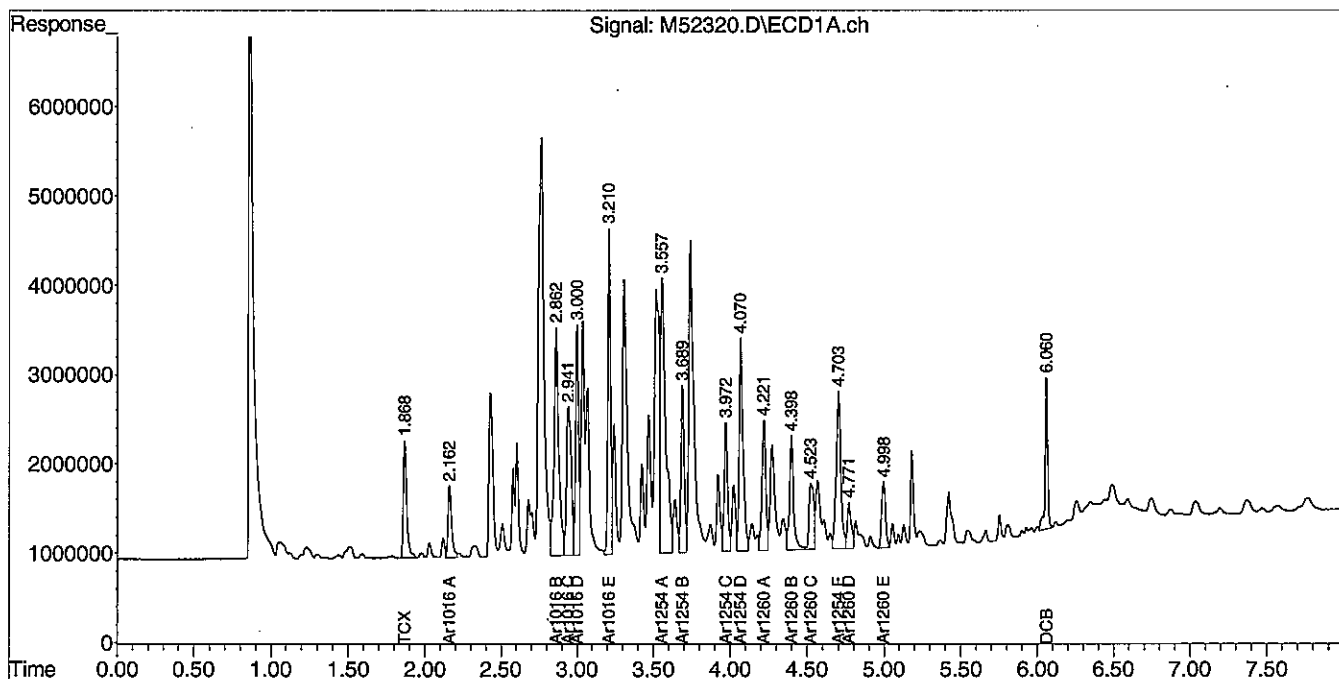
\* Values outside QC limits

Comments: \_\_\_\_\_

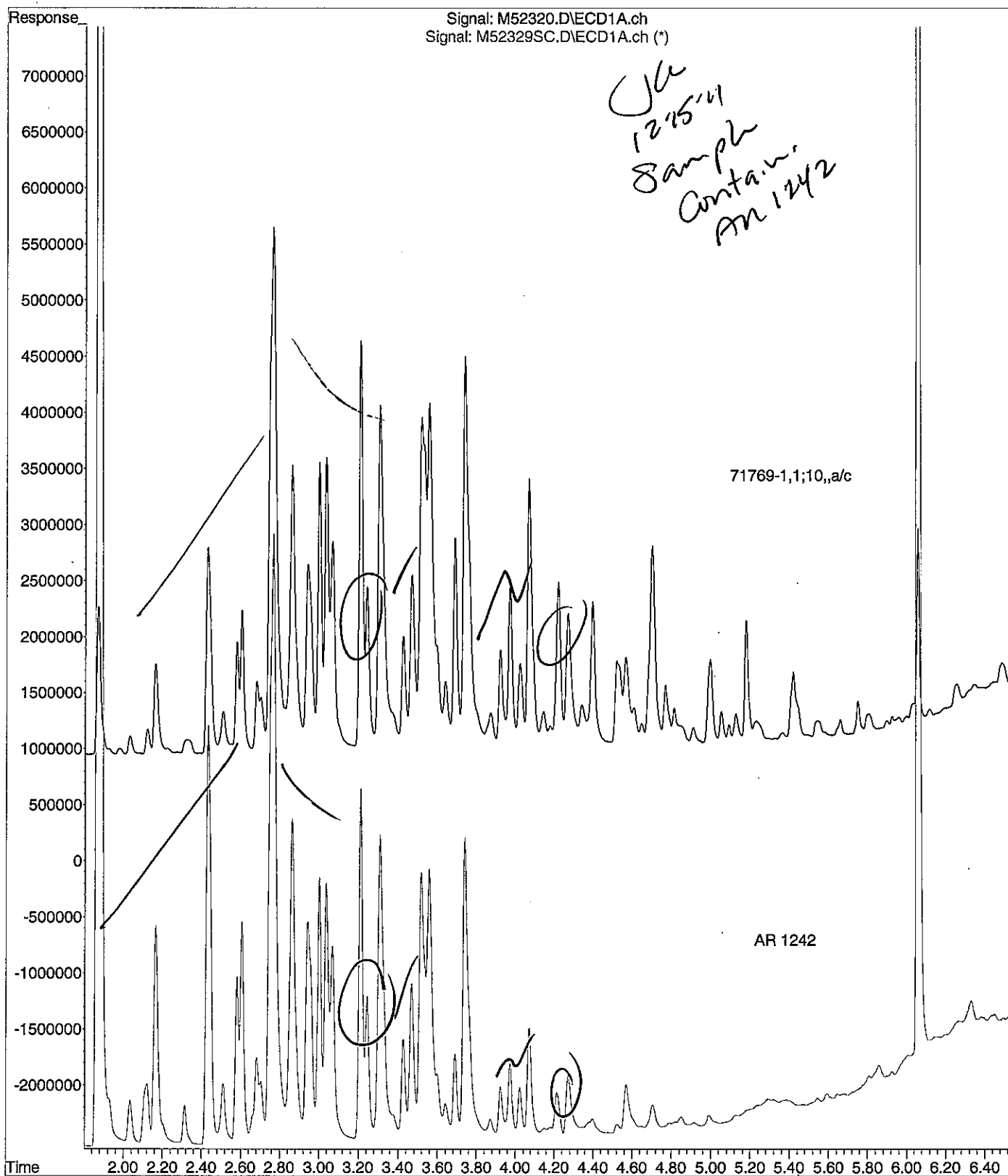
Data Path : C:\msdchem\1\DATA\121411-M\  
 Data File : M52320.D  
 Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch  
 Acq On : 14 Dec 2011 5:27 pm  
 Operator : JK  
 Sample : 71769-1,1:10,,A/C  
 Misc : SOIL  
 ALS Vial : 21 Sample Multiplier: 1

Integration File signal 1: events.e  
 Integration File signal 2: events2.e  
 Quant Time: Dec 15 09:09:29 2011  
 Quant Method : C:\msdchem\1\METHODS\PCB120711.M  
 Quant Title : SW-846 METHOD 8082 Aroclor 1016/1260/1254  
 QLast Update : Wed Dec 14 08:30:51 2011  
 Response via : Initial Calibration  
 Integrator: ChemStation

Volume Inj. : 2 uL  
 Signal #1 Phase : STX-CLPPesticides Signal #2 Phase: STX-CLPPesticides  
 Signal #1 Info : 30 m x 0.25mm x 0 Signal #2 Info : 30 m x 0.25mm x 0.25 um



File :C:\msdchem\1\DATA\121411-M\M52320.D  
Operator : JK  
Acquired : 14 Dec 2011 5:27 pm using AcqMethod PCB.M  
Instrument : Instrument M  
Sample Name: 71769-1,1:10,,A/C  
Misc Info : SOIL  
Vial Number: 21



JK  
12/16/11

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December 16, 2011

**SAMPLE DATA**

**CLIENT SAMPLE ID**

**Project Name:** Peabody Terrace  
**Project Number:** 210980  
**Field Sample ID:** PTD-CBK-E-1970

**Lab Sample ID:** 71769-2  
**Matrix:** Solid  
**Percent Solid:** 99  
**Dilution Factor:** 92  
**Collection Date:** 12/08/11  
**Lab Receipt Date:** 12/09/11  
**Extraction Date:** 12/12/11  
**Analysis Date:** 12/15/11

**PCB ANALYTICAL RESULTS**

COMPOUND	Quantitation Limit $\mu\text{g/kg}$	Results $\mu\text{g/kg}$
PCB-1016	3040	U
PCB-1221	3040	U
PCB-1232	3040	U
PCB-1242	3040	U
PCB-1248	3040	U
PCB-1254	3040	60800
PCB-1260	3040	U
PCB-1262	3040	U
PCB-1268	3040	U
<b>Surrogate Standard Recovery</b>		
2,4,5,6-Tetrachloro-m-xylene	*	%
Decachlorobiphenyl	*	%
U=Undetected J=Estimated E=Exceeds Calibration Range B=Detected in Blank		

**METHODOLOGY:** Sample analysis conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 8082.  
Sample preparation conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 3540C.  
Sample cleanup was conducted according to SW-846 Method 3665A.

**COMMENTS:** Results are expressed on a dry weight basis.  
\* The surrogates were diluted out.

PCB EXT Report

Authorized signature





PCB  
COLUMN RELATIVE PERCENT DIFFERENCE

Instrument ID: M	SDG: 71769
GC Column #1: STX-CLPesticides I	Sample: 71769-2,1:20,,A/C
Column ID: 0.25 mm	Data File: M52393.D
GC Column #2: STX-CLPesticides II	Dilution Factor: 91.7
Column ID: 0.25 mm	

Column #1		Column #2		#
COMPOUND	SAMPLE RESULT (ug/kg)	SAMPLE RESULT (ug/kg)	RPD	
PCB 1254	60807	50558	18.4	

# Column to be used to flag RPD values greater than QC limit of 40%

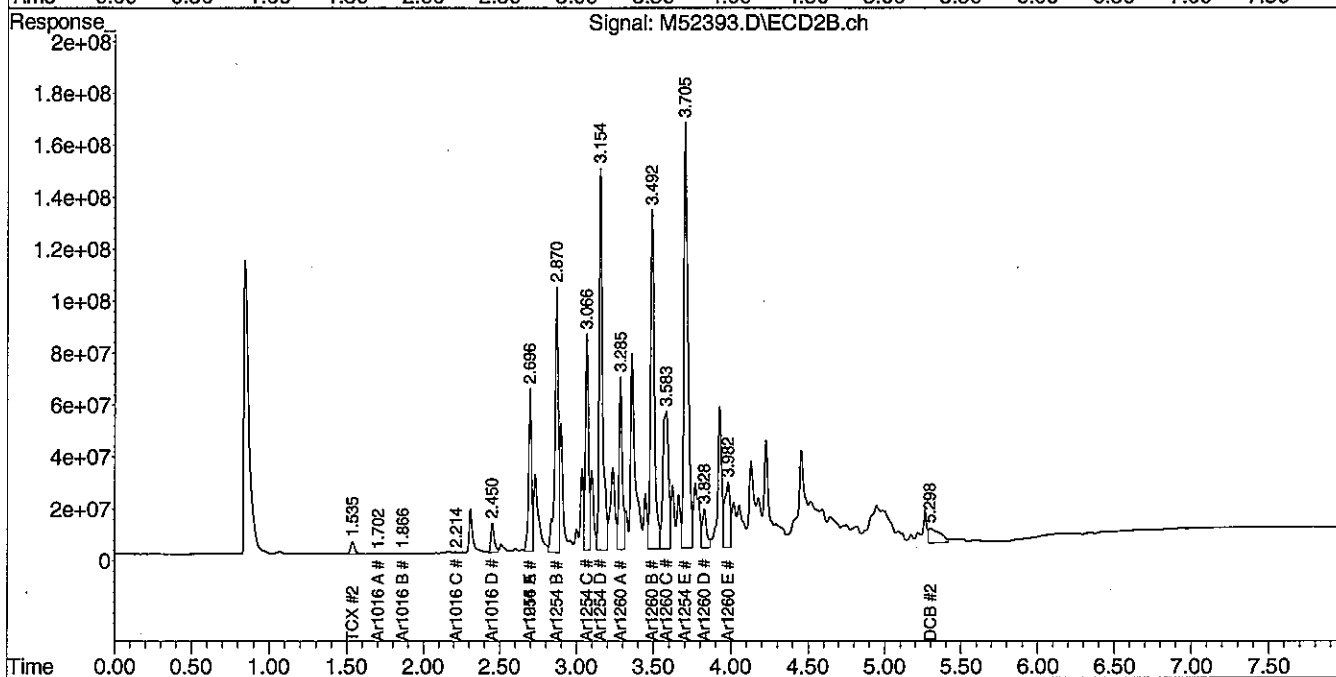
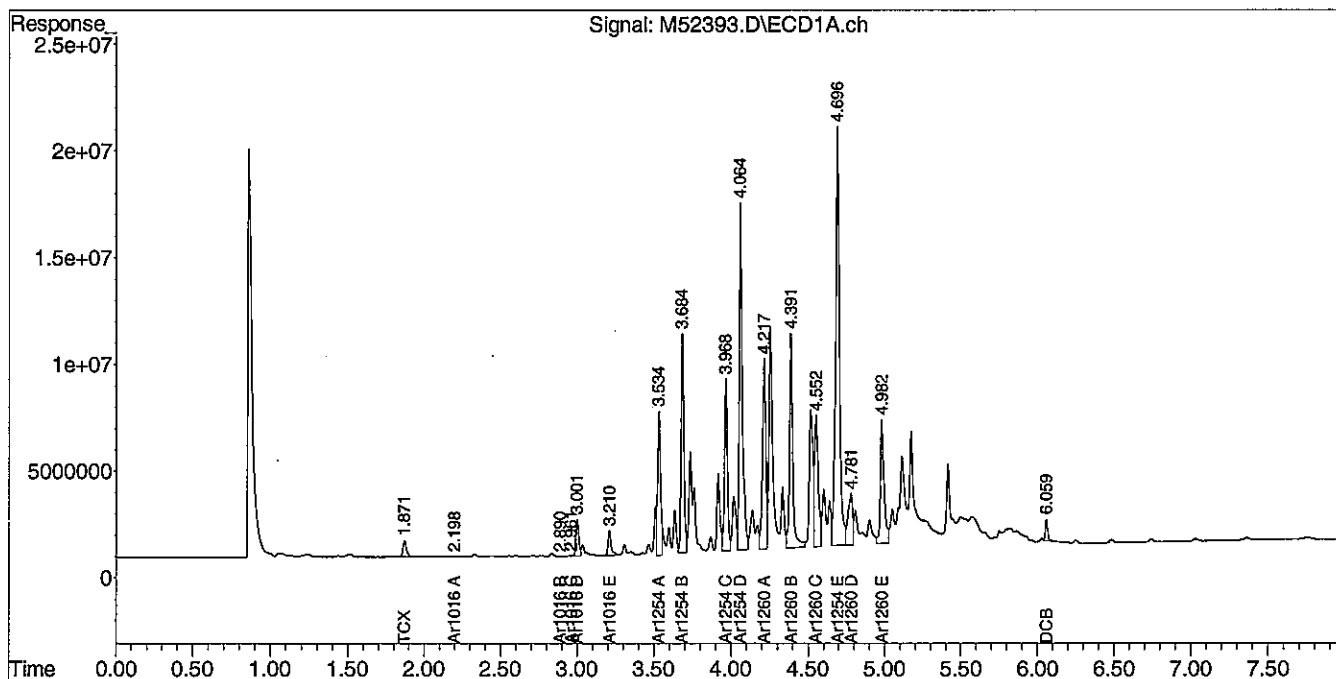
\* Values outside QC limits

Comments: \_\_\_\_\_

Data Path : C:\msdchem\1\DATA\121511-M\  
 Data File : M52393.D  
 Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch  
 Acq On : 15 Dec 2011 1:49 pm  
 Operator : JK  
 Sample : 71769-2,1:20,,A/C  
 Misc : SOIL  
 ALS Vial : 10 Sample Multiplier: 1

Integration File signal 1: events.e  
 Integration File signal 2: events2.e  
 Quant Time: Dec 16 09:57:38 2011  
 Quant Method : C:\msdchem\1\METHODS\PCB120711.M  
 Quant Title : SW-846 METHOD 8082 Aroclor 1016/1260/1254  
 QLast Update : Wed Dec 14 08:30:51 2011  
 Response via : Initial Calibration  
 Integrator: ChemStation

Volume Inj. : 2 uL  
 Signal #1 Phase : STX-CLPPesticides Signal #2 Phase: STX-CLPPesticides  
 Signal #1 Info : 30 m x 0.25mm x 0 Signal #2 Info : 30 m x 0.25mm x 0.25 um



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**SAMPLE DATA**

**CLIENT SAMPLE ID**

**Project Name:** Peabody Terrace  
**Project Number:** 210980  
**Field Sample ID:** PTD-CBK-N-1971

**Lab Sample ID:** 71769-3  
**Matrix:** Solid  
**Percent Solid:** 99  
**Dilution Factor:** 97  
**Collection Date:** 12/08/11  
**Lab Receipt Date:** 12/09/11  
**Extraction Date:** 12/12/11  
**Analysis Date:** 12/14/11

**PCB ANALYTICAL RESULTS**

COMPOUND	Quantitation Limit $\mu\text{g/kg}$	Results $\mu\text{g/kg}$
PCB-1016	3200	U
PCB-1221	3200	U
PCB-1232	3200	U
PCB-1242	3200	U
PCB-1248	3200	U
PCB-1254	3200	95200
PCB-1260	3200	U
PCB-1262	3200	U
PCB-1268	3200	U
<b>Surrogate Standard Recovery</b>		
2,4,5,6-Tetrachloro-m-xylene	*	%
Decachlorobiphenyl	*	%
U=Undetected J=Estimated E=Exceeds Calibration Range B=Detected in Blank		

**METHODOLOGY:** Sample analysis conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 8082.  
Sample preparation conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 3540C.  
Sample cleanup was conducted according to SW-846 Method 3665A.

**COMMENTS:** Results are expressed on a dry weight basis.  
\* The surrogates were diluted out.

PCB EXT Report

Authorized signature



PCB  
COLUMN RELATIVE PERCENT DIFFERENCE

Instrument ID: M	SDG: 71769
GC Column #1: STX-CLPesticides I	Sample: 71769-3,1:20,,A/C
Column ID: 0.25 mm	Data File: M52322.D
GC Column #2: STX-CLPesticides II	Dilution Factor: 96.8
Column ID: 0.25 mm	

Column #1		Column #2		#
COMPOUND	SAMPLE RESULT (ug/kg)	SAMPLE RESULT (ug/kg)	RPD	
PCB 1254	95223	76948	21.2	

# Column to be used to flag RPD values greater than QC limit of 40%

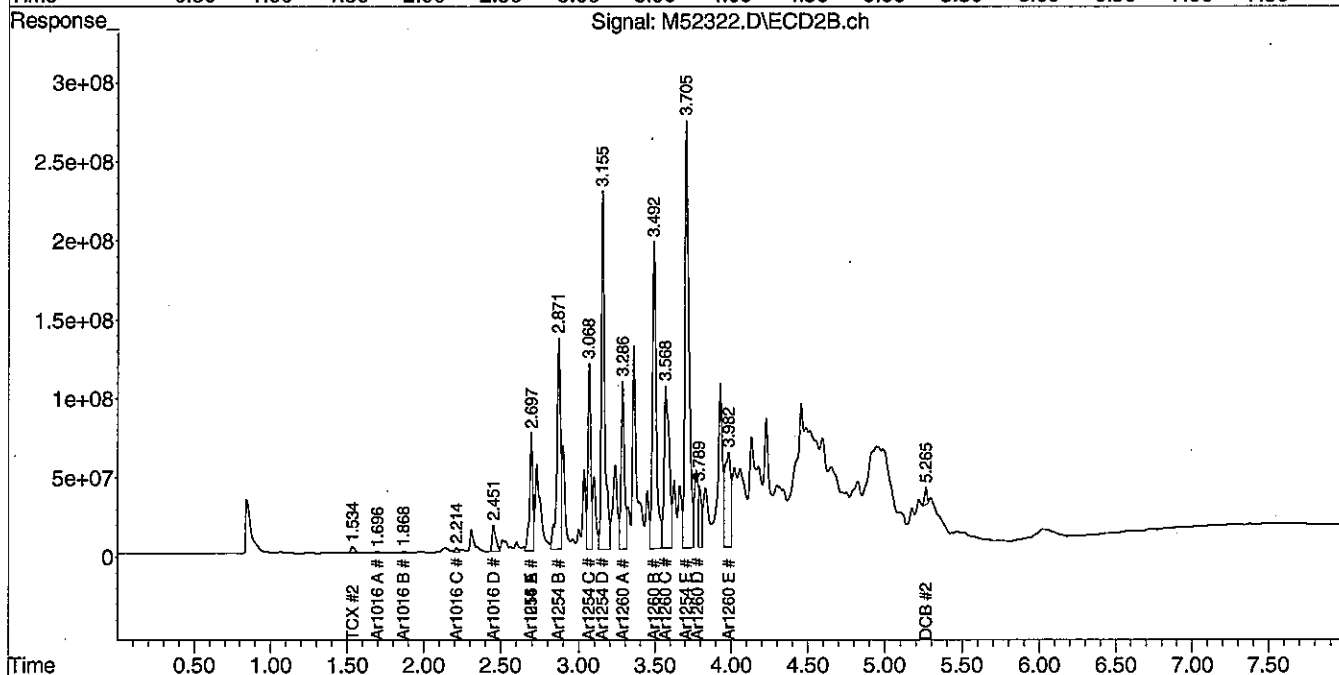
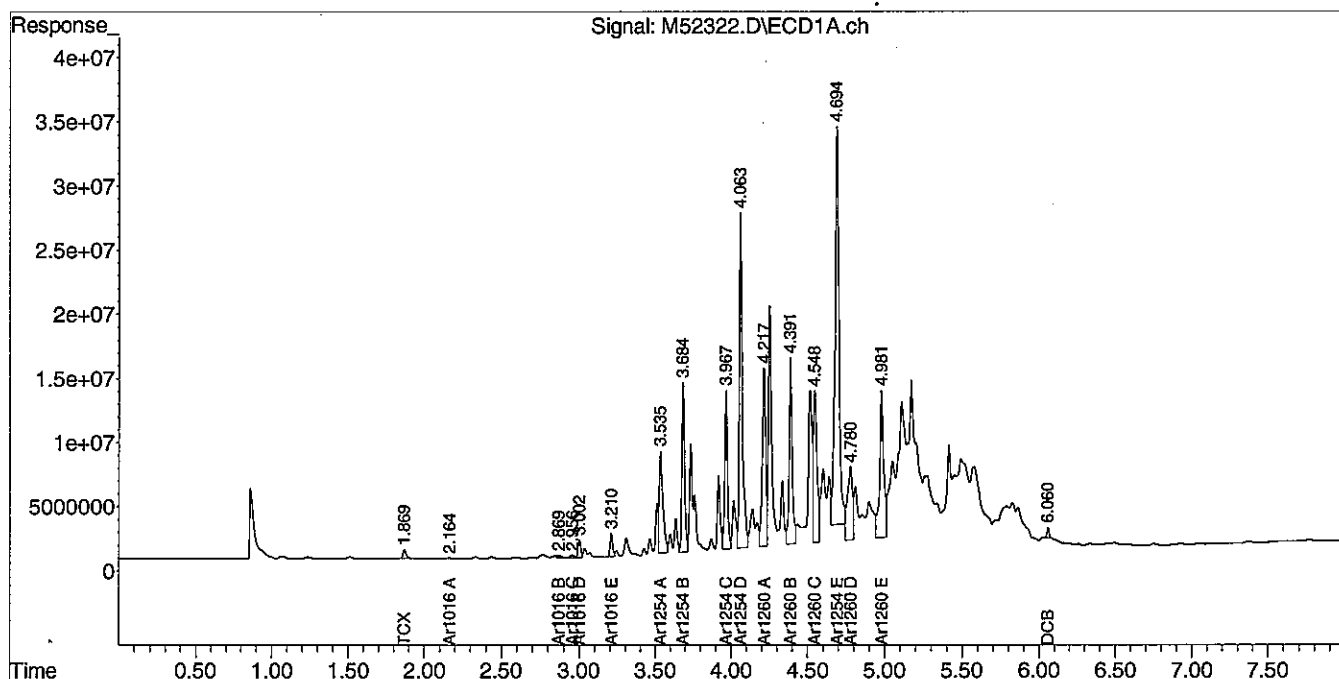
\* Values outside QC limits

Comments: \_\_\_\_\_

Data Path : C:\msdchem\1\DATA\121411-M\  
 Data File : M52322.D  
 Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch  
 Acq On : 14 Dec 2011 5:48 pm  
 Operator : JK  
 Sample : 71769-3,1:20,,A/C  
 Misc : SOIL  
 ALS Vial : 23 Sample Multiplier: 1

Integration File signal 1: events.e  
 Integration File signal 2: events2.e  
 Quant Time: Dec 15 09:40:30 2011  
 Quant Method : C:\msdchem\1\METHODS\PCB120711.M  
 Quant Title : SW-846 METHOD 8082 Aroclor 1016/1260/1254  
 QLast Update : Wed Dec 14 08:30:51 2011  
 Response via : Initial Calibration  
 Integrator: ChemStation

Volume Inj. : 2 uL  
 Signal #1 Phase : STX-CLPPesticides Signal #2 Phase: STX-CLPPesticides  
 Signal #1 Info : 30 m x 0.25mm x 0 Signal #2 Info : 30 m x 0.25mm x 0.25 um



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**SAMPLE DATA**

**CLIENT SAMPLE ID**

**Project Name:** Peabody Terrace  
**Project Number:** 210980  
**Field Sample ID:** PTZ-CBK-E-1972

**Lab Sample ID:** 71769-4  
**Matrix:** Solid  
**Percent Solid:** 98  
**Dilution Factor:** 16200  
**Collection Date:** 12/08/11  
**Lab Receipt Date:** 12/09/11  
**Extraction Date:** 12/12/11  
**Analysis Date:** 12/15/11

**PCB ANALYTICAL RESULTS**

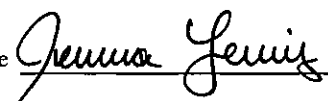
COMPOUND	Quantitation Limit µg/kg	Results µg/kg
PCB-1016	535000	U
PCB-1221	535000	U
PCB-1232	535000	U
PCB-1242	535000	U
PCB-1248	535000	U
PCB-1254	535000	6010000
PCB-1260	535000	U
PCB-1262	535000	U
PCB-1268	535000	U
<b><u>Surrogate Standard Recovery</u></b>		
2,4,5,6-Tetrachloro-m-xylene	*	%
Decachlorobiphenyl	*	%
U=Undetected J=Estimated E=Exceeds Calibration Range B=Detected in Blank		

**METHODOLOGY:** Sample analysis conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 8082.  
Sample preparation conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 3540C.  
Sample cleanup was conducted according to SW-846 Method 3665A.

**COMMENTS:** Results are expressed on a dry weight basis.  
\* The surrogates were diluted out.

PCB EXT Report

Authorized signature



PCB  
COLUMN RELATIVE PERCENT DIFFERENCE

Instrument ID: M	SDG: 71769
GC Column #1: STX-CLPesticides I	Sample: 71769-4,1:2500,,A/C
Column ID: 0.25 mm	Data File: M52394.D
GC Column #2: STX-CLPesticides II	Dilution Factor: 16215.2
Column ID: 0.25 mm	

Column #1		Column #2		RPD	#
COMPOUND	SAMPLE RESULT (ug/kg)	SAMPLE RESULT (ug/kg)			
PCB 1254	6013026	5575973		7.5	

# Column to be used to flag RPD values greater than QC limit of 40%

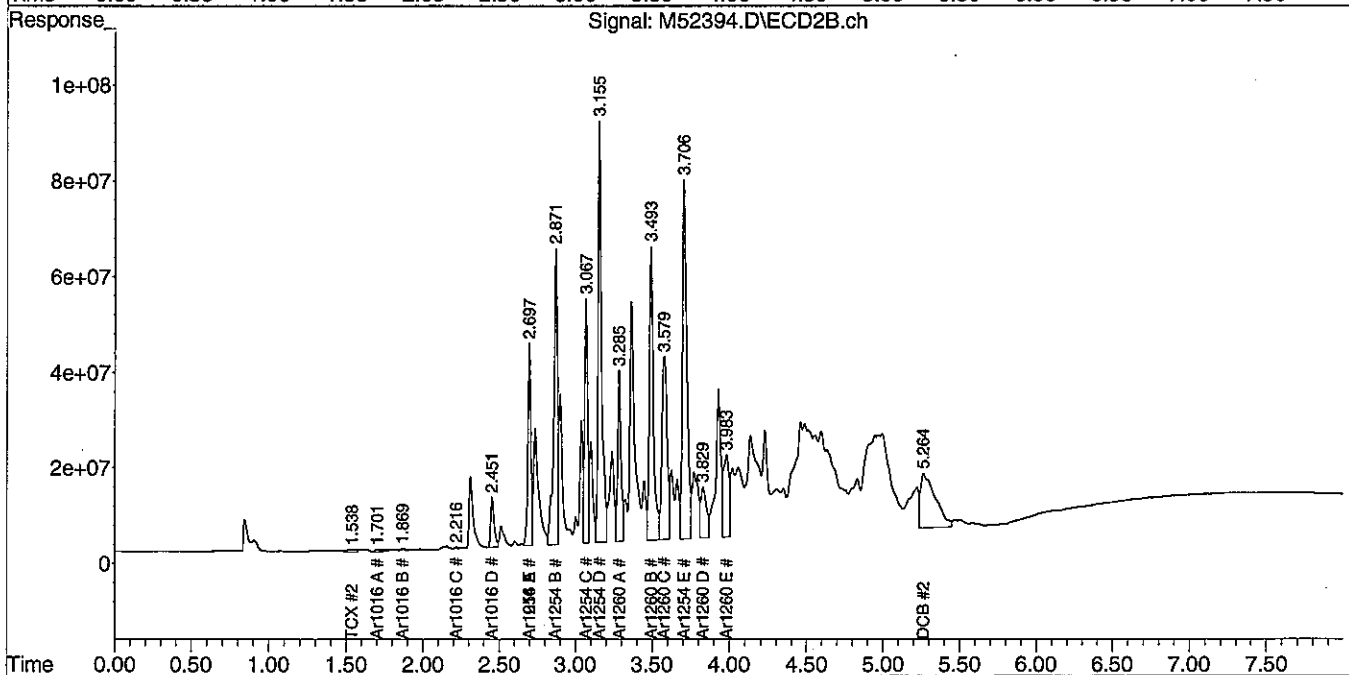
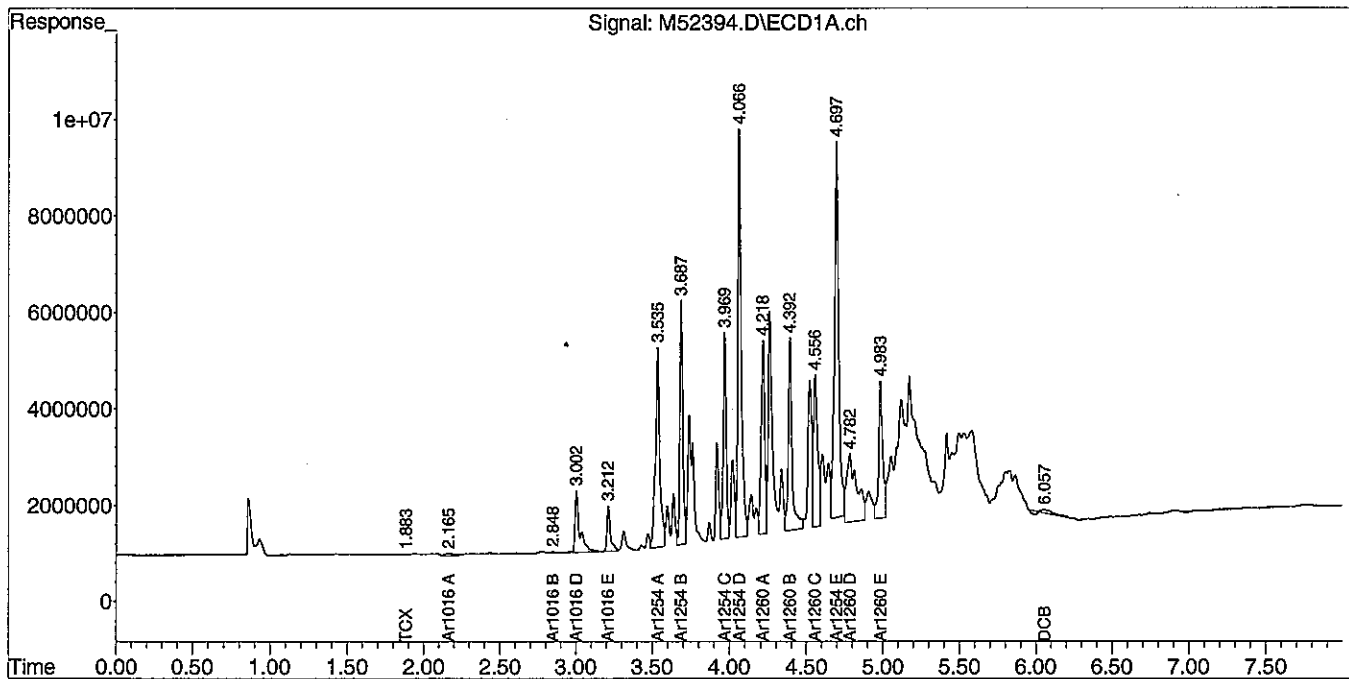
\* Values outside QC limits

Comments: \_\_\_\_\_

Data Path : C:\msdchem\1\DATA\121511-M\  
Data File : M52394.D  
Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch  
Acq On : 15 Dec 2011 1:59 pm  
Operator : JK  
Sample : 71769-4,1:2500,,A/C  
Misc : SOIL  
ALS Vial : 11 Sample Multiplier: 1

Integration File signal 1: events.e  
Integration File signal 2: events2.e  
Quant Time: Dec 16 09:58:52 2011  
Quant Method : C:\msdchem\1\METHODS\PCB120711.M  
Quant Title : SW-846 METHOD 8082 Aroclor 1016/1260/1254  
QLast Update : Wed Dec 14 08:30:51 2011  
Response via : Initial Calibration  
Integrator: ChemStation

Volume Inj. : 2 uL  
Signal #1 Phase : STX-CLPPesticides Signal #2 Phase: STX-CLPPesticides  
Signal #1 Info : 30 m x 0.25mm x 0 Signal #2 Info : 30 m x 0.25mm x 0.25 um





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December 15, 2011

**SAMPLE DATA**

**CLIENT SAMPLE ID**  
**Project Name:** Peabody Terrace  
**Project Number:** 210980  
**Field Sample ID:** PTZ-CBK-W-1973

**Lab Sample ID:** 71769-5  
**Matrix:** Solid  
**Percent Solid:** 99  
**Dilution Factor:** 65  
**Collection Date:** 12/08/11  
**Lab Receipt Date:** 12/09/11  
**Extraction Date:** 12/12/11  
**Analysis Date:** 12/14/11

**PCB ANALYTICAL RESULTS**

COMPOUND	Quantitation Limit $\mu\text{g/kg}$	Results $\mu\text{g/kg}$
PCB-1016	2150	U
PCB-1221	2150	U
PCB-1232	2150	U
PCB-1242	2150	U
PCB-1248	2150	U
PCB-1254	2150	44000
PCB-1260	2150	U
PCB-1262	2150	U
PCB-1268	2150	U
<b>Surrogate Standard Recovery</b>		
2,4,5,6-Tetrachloro-m-xylene	95	%
Decachlorobiphenyl	76	%
U=Undetected J=Estimated E=Exceeds Calibration Range B=Detected in Blank		

**METHODOLOGY:** Sample analysis conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 8082.  
Sample preparation conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 3540C.  
Sample cleanup was conducted according to SW-846 Method 3665A.

**COMMENTS:** Results are expressed on a dry weight basis.

PCB EXT Report

Authorized signature



PCB  
COLUMN RELATIVE PERCENT DIFFERENCE

Instrument ID: M	SDG: 71769
GC Column #1: STX-CLPesticides I	Sample: 71769-5,1:10,,A/C
Column ID: 0.25 mm	Data File: M52324.D
GC Column #2: STX-CLPesticides II	Dilution Factor: 65.1
Column ID: 0.25 mm	

Column #1		Column #2		#
COMPOUND	SAMPLE RESULT (ug/kg)	SAMPLE RESULT (ug/kg)	RPD	
PCB 1254	43989	39375	11.1	

# Column to be used to flag RPD values greater than QC limit of 40%

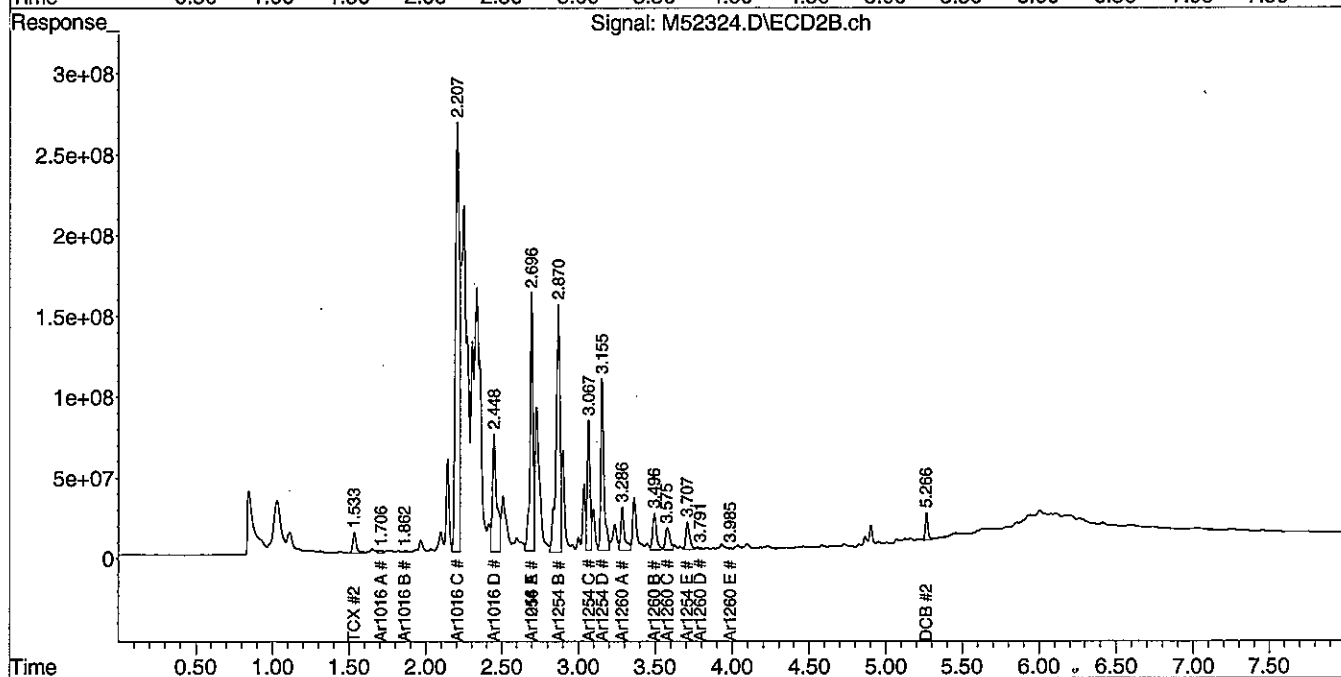
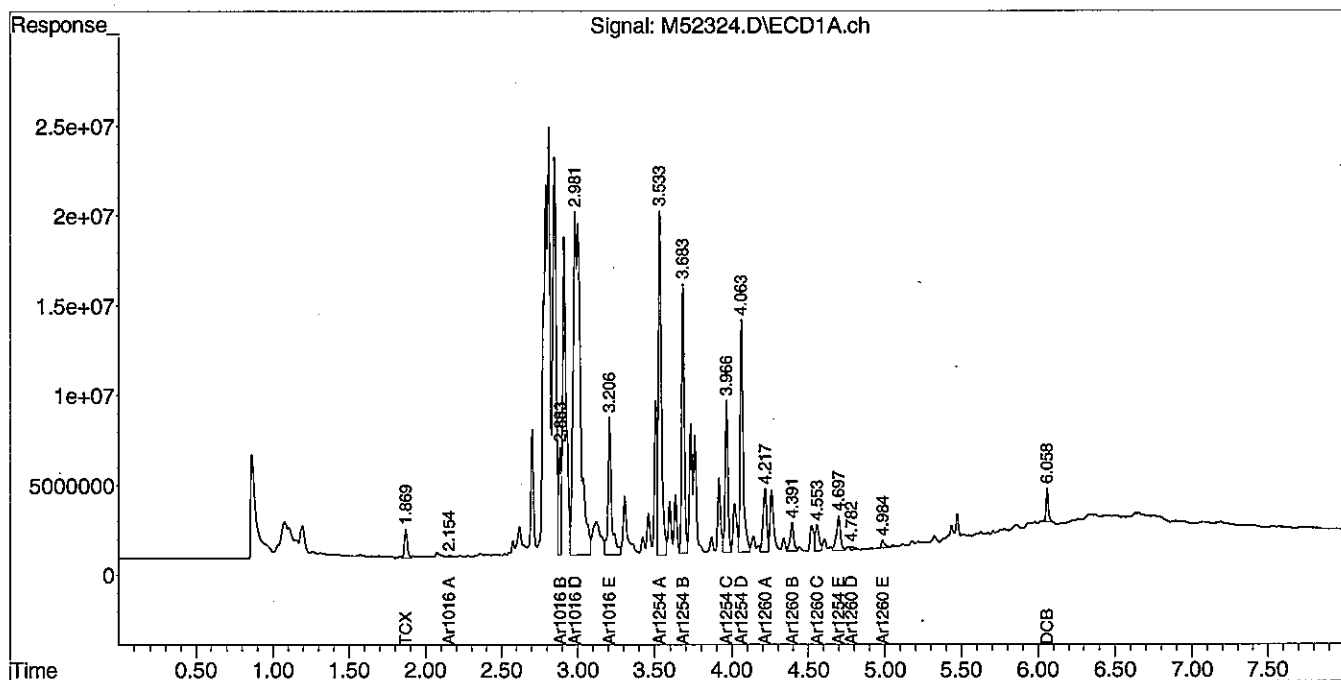
\* Values outside QC limits

Comments: \_\_\_\_\_

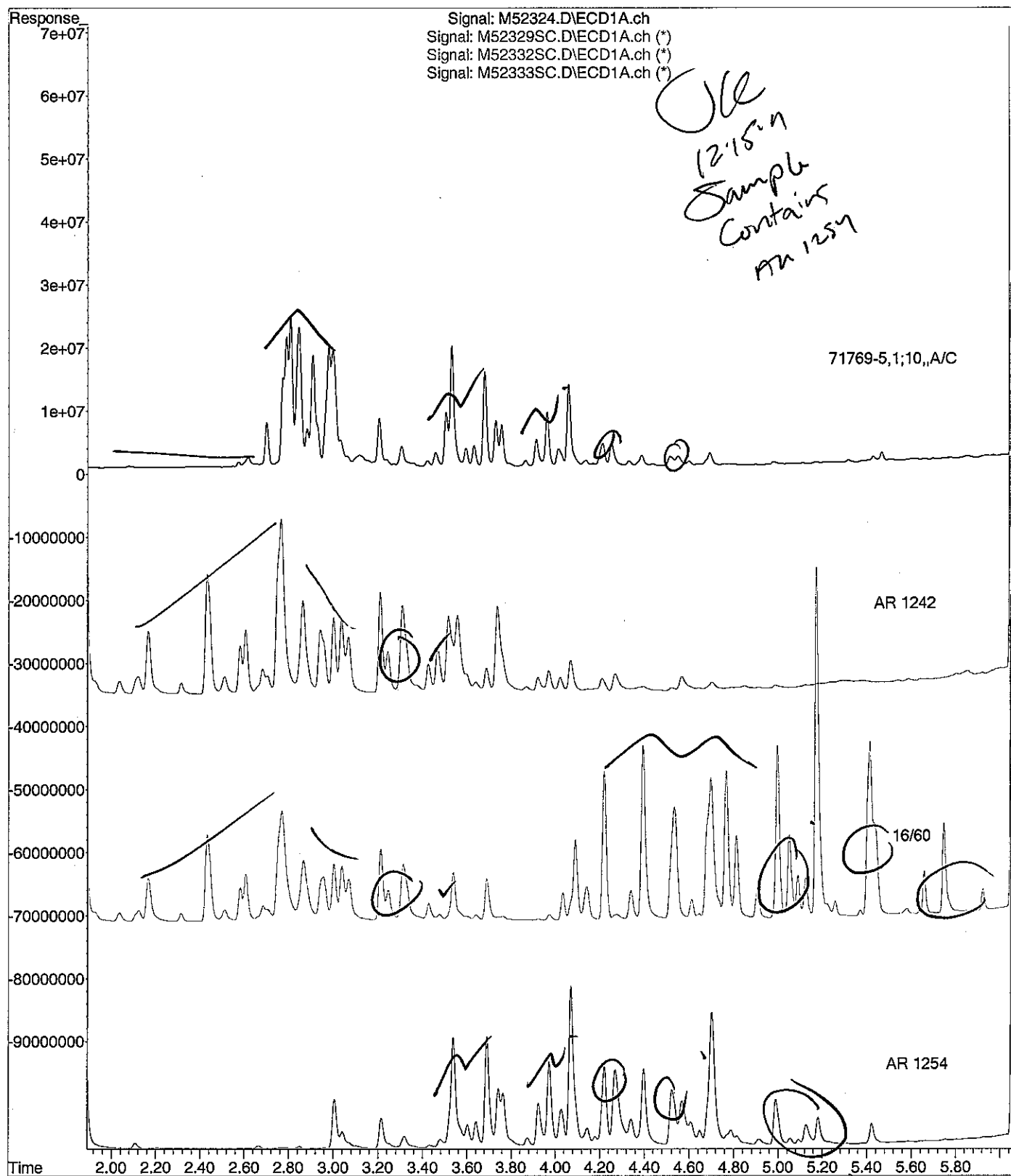
Data Path : C:\msdchem\1\DATA\121411-M\  
Data File : M52324.D  
Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch  
Acq On : 14 Dec 2011 6:08 pm  
Operator : JK  
Sample : 71769-5,1:10,,A/C  
Misc : SOIL  
ALS Vial : 25 Sample Multiplier: 1

Integration File signal 1: events.e  
Integration File signal 2: events2.e  
Quant Time: Dec 15 09:44:31 2011  
Quant Method : C:\msdchem\1\METHODS\PCB120711.M  
Quant Title : SW-846 METHOD 8082 Aroclor 1016/1260/1254  
QLast Update : Wed Dec 14 08:30:51 2011  
Response via : Initial Calibration  
Integrator: ChemStation

Volume Inj. : 2 uL  
Signal #1 Phase : STX-CLPPesticides Signal #2 Phase: STX-CLPPesticides  
Signal #1 Info : 30 m x 0.25mm x 0 Signal #2 Info : 30 m x 0.25mm x 0.25 um



File :C:\msdchem\1\DATA\121411-M\M52324.D  
Operator : JK  
Acquired : 14 Dec 2011 6:08 pm using AcqMethod PCB.M  
Instrument : Instrument M  
Sample Name: 71769-5,1:10,,A/C  
Misc Info : SOIL  
Vial Number: 25



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**SAMPLE DATA**

**CLIENT SAMPLE ID**

**Project Name:** Peabody Terrace  
**Project Number:** 210980  
**Field Sample ID:** PTZ-CBK-W-1974

**Lab Sample ID:** 71769-6  
**Matrix:** Solid  
**Percent Solid:** 89  
**Dilution Factor:** 453  
**Collection Date:** 12/08/11  
**Lab Receipt Date:** 12/09/11  
**Extraction Date:** 12/12/11  
**Analysis Date:** 12/15/11

**PCB ANALYTICAL RESULTS**

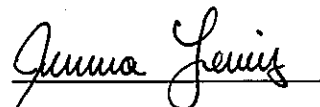
COMPOUND	Quantitation Limit $\mu\text{g/kg}$	Results $\mu\text{g/kg}$
PCB-1016	14900	U
PCB-1221	14900	U
PCB-1232	14900	U
PCB-1242	14900	U
PCB-1248	14900	U
PCB-1254	14900	283000
PCB-1260	14900	U
PCB-1262	14900	U
PCB-1268	14900	U
<b>Surrogate Standard Recovery</b>		
2,4,5,6-Tetrachloro-m-xylene	*	%
Decachlorobiphenyl	*	%
U=Undetected J=Estimated E=Exceeds Calibration Range B=Detected in Blank		

**METHODOLOGY:** Sample analysis conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 8082.  
Sample preparation conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 3540C.  
Sample cleanup was conducted according to SW-846 Method 3665A.

**COMMENTS:** Results are expressed on a dry weight basis.  
\* The surrogates were diluted out.

PCB EXT Report

Authorized signature



PCB  
COLUMN RELATIVE PERCENT DIFFERENCE

Instrument ID: M

SDG: 71769

GC Column #1: STX-CLPesticides I

Sample: 71769-6,1:50,,A/C

Column ID: 0.25 mm

Data File: M52395.D

GC Column #2: STX-CLPesticides II

Dilution Factor: 452.5

Column ID: 0.25 mm

Column #1		Column #2		#
COMPOUND	SAMPLE RESULT (ug/kg)	SAMPLE RESULT (ug/kg)	RPD	
PCB 1254	283489	241653	15.9	

# Column to be used to flag RPD values greater than QC limit of 40%

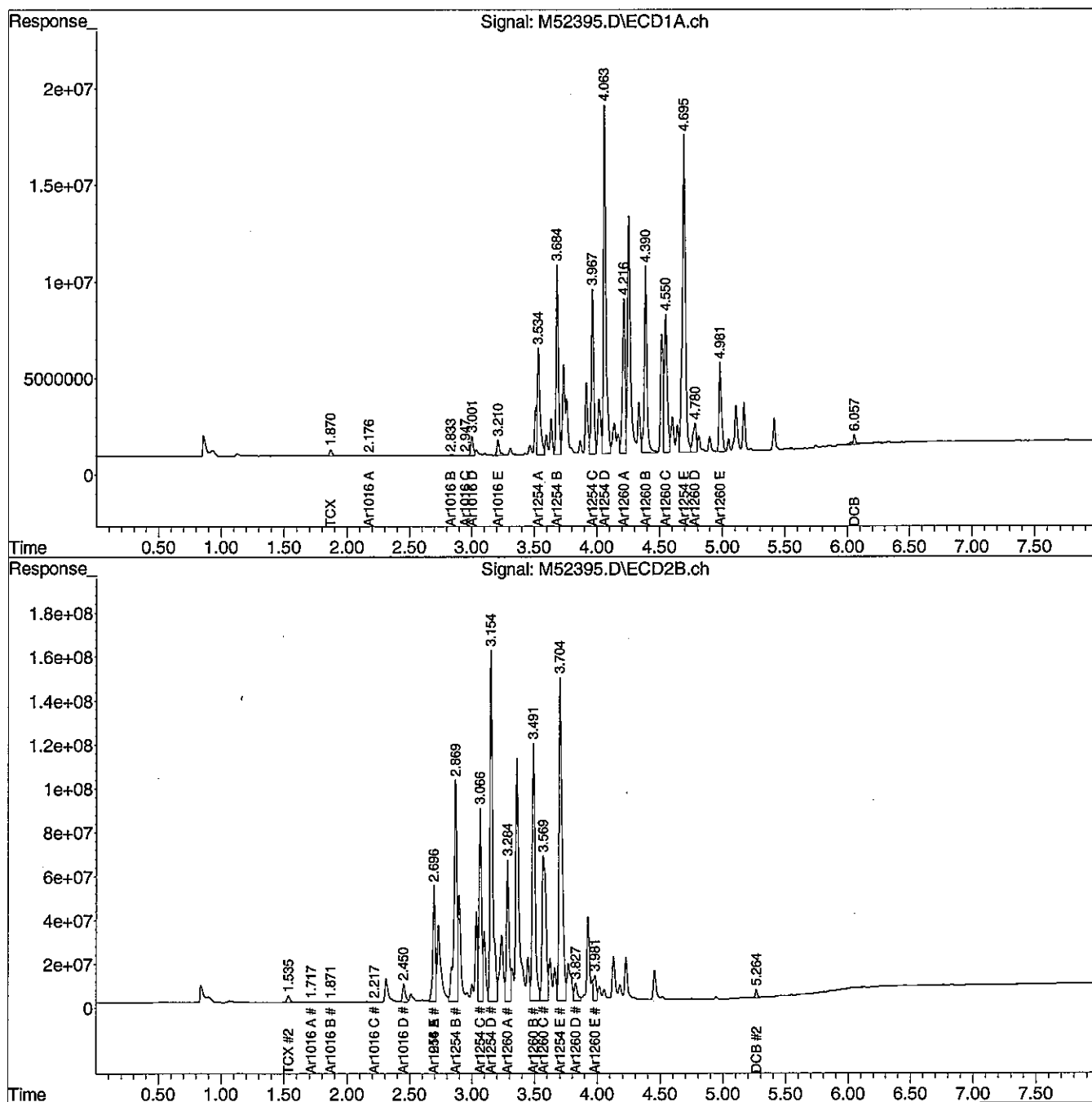
\* Values outside QC limits

Comments: \_\_\_\_\_

Data Path : C:\msdchem\1\DATA\121511-M\  
Data File : M52395.D  
Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch  
Acq On : 15 Dec 2011 2:09 pm  
Operator : JK  
Sample : 71769-6,1:50,,A/C  
Misc : SOIL  
ALS Vial : 12 Sample Multiplier: 1

Integration File signal 1: events.e  
Integration File signal 2: events2.e  
Quant Time: Dec 16 09:59:41 2011  
Quant Method : C:\msdchem\1\METHODS\PCB120711.M  
Quant Title : SW-846 METHOD 8082 Aroclor 1016/1260/1254  
QLast Update : Wed Dec 14 08:30:51 2011  
Response via : Initial Calibration  
Integrator: ChemStation

Volume Inj. : 2 uL  
Signal #1 Phase : STX-CLPPesticides Signal #2 Phase: STX-CLPPesticides  
Signal #1 Info : 30 m x 0.25mm x 0 Signal #2 Info : 30 m x 0.25mm x 0.25 um



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December 15, 2011

**SAMPLE DATA**

**CLIENT SAMPLE ID**  
**Project Name:** Peabody Terrace  
**Project Number:** 210980  
**Field Sample ID:** PTD-CBK-N-1975

**Lab Sample ID:** 71769-7  
**Matrix:** Solid  
**Percent Solid:** 99  
**Dilution Factor:** 7  
**Collection Date:** 12/08/11  
**Lab Receipt Date:** 12/09/11  
**Extraction Date:** 12/12/11  
**Analysis Date:** 12/14/11

PCB ANALYTICAL RESULTS		
COMPOUND	Quantitation Limit $\mu\text{g/kg}$	Results $\mu\text{g/kg}$
PCB-1016	231	U
PCB-1221	231	U
PCB-1232	231	U
PCB-1242	231	U
PCB-1248	231	U
PCB-1254	231	930
PCB-1260	231	U
PCB-1262	231	U
PCB-1268	231	U
<b>Surrogate Standard Recovery</b>		
2,4,5,6-Tetrachloro-m-xylene	62	%
Decachlorobiphenyl	49	%
U=Undetected J=Estimated E=Exceeds Calibration Range B=Detected in Blank		

**METHODOLOGY:** Sample analysis conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 8082.  
Sample preparation conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 3540C.  
Sample cleanup was conducted according to SW-846 Method 3665A.

**COMMENTS:** Results are expressed on a dry weight basis.

PCB EXT Report

Authorized signature





PCB  
COLUMN RELATIVE PERCENT DIFFERENCE

Instrument ID: M	SDG: 71769
GC Column #1: STX-CLPesticides I	Sample: 71769-7,,A/C
Column ID: 0.25 mm	Data File: M52326.D
GC Column #2: STX-CLPesticides II	Dilution Factor: 7.3
Column ID: 0.25 mm	

Column #1		Column #2		RPD	#
COMPOUND	SAMPLE RESULT (ug/kg)	SAMPLE RESULT (ug/kg)			
PCB 1254	930	732		23.8	

# Column to be used to flag RPD values greater than QC limit of 40%

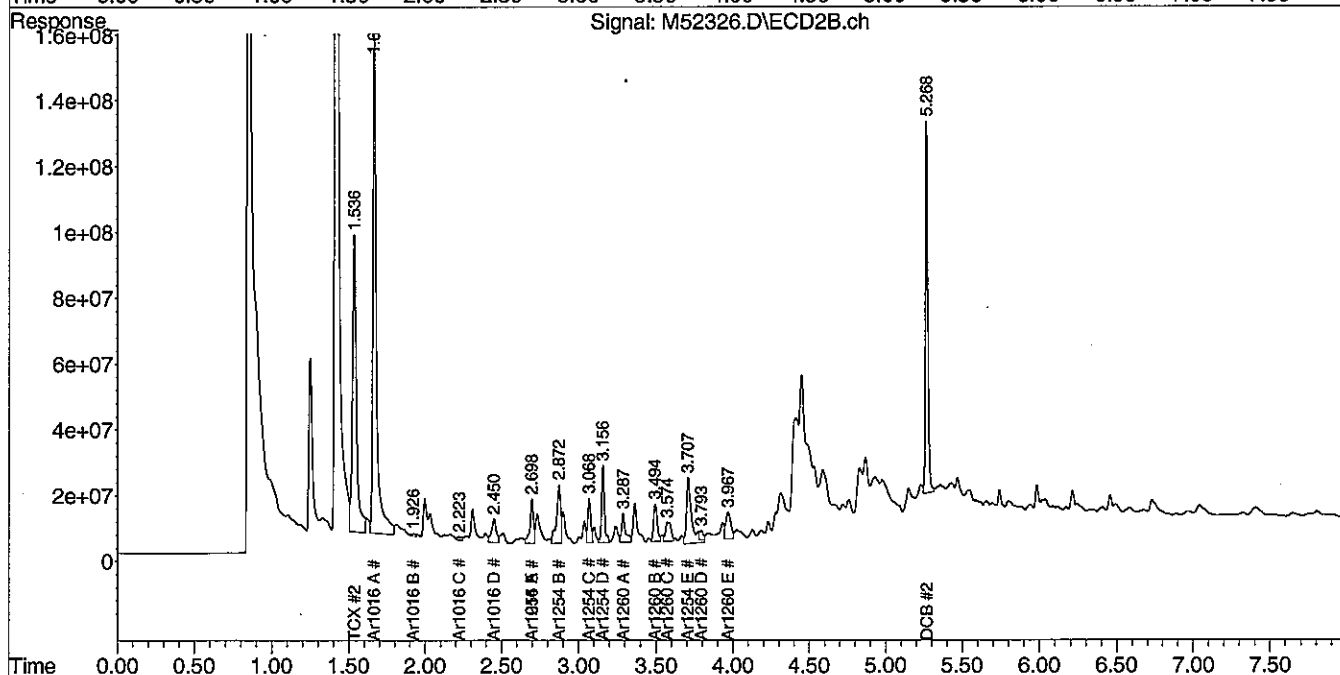
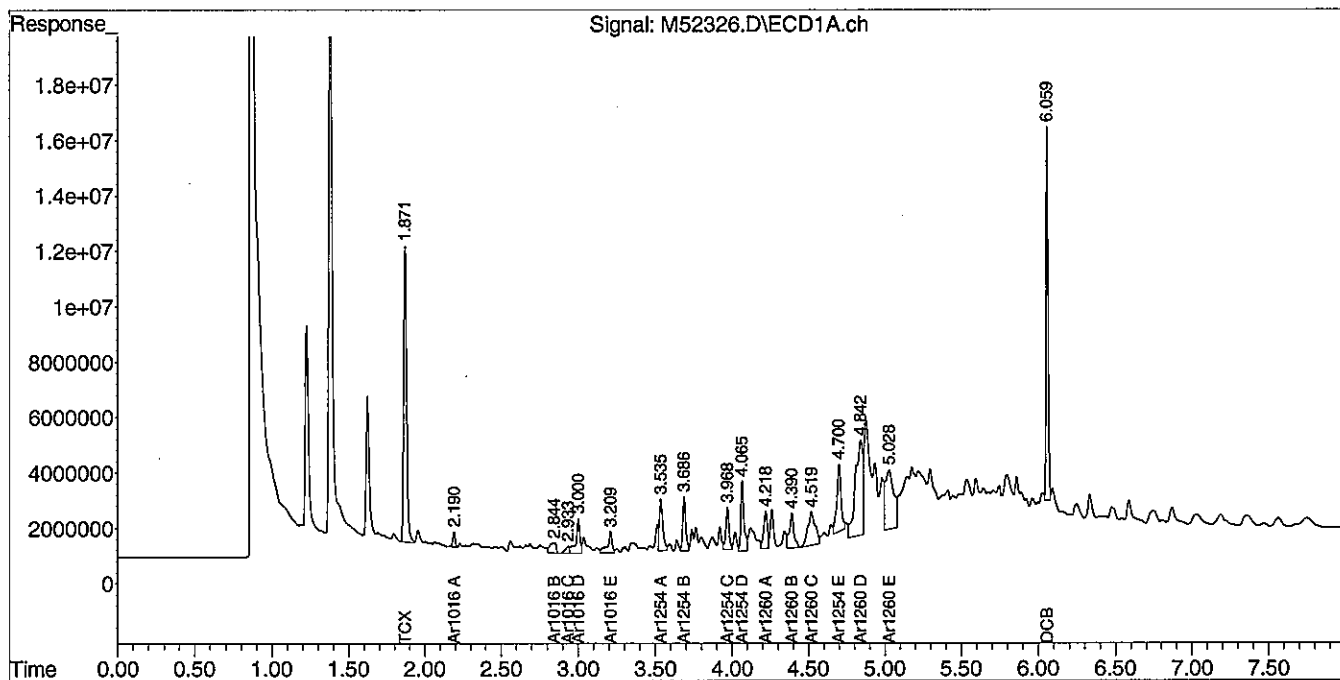
\* Values outside QC limits

Comments: \_\_\_\_\_

Data Path : C:\msdchem\1\DATA\121411-M\  
Data File : M52326.D  
Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch  
Acq On : 14 Dec 2011 6:28 pm  
Operator : JK  
Sample : 71769-7,,A/C  
Misc : SOIL  
ALS Vial : 27 Sample Multiplier: 1

Integration File signal 1: events.e  
Integration File signal 2: events2.e  
Quant Time: Dec 15 09:46:48 2011  
Quant Method : C:\msdchem\1\METHODS\PCB120711.M  
Quant Title : SW-846 METHOD 8082 Aroclor 1016/1260/1254  
QLast Update : Wed Dec 14 08:30:51 2011  
Response via : Initial Calibration  
Integrator: ChemStation

Volume Inj. : 2 uL  
Signal #1 Phase : STX-CLPPesticides Signal #2 Phase: STX-CLPPesticides  
Signal #1 Info : 30 m x 0.25mm x 0 Signal #2 Info : 30 m x 0.25mm x 0.25 um



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**SAMPLE DATA**

**CLIENT SAMPLE ID**

**Project Name:** Peabody Terrace  
**Project Number:** 210980  
**Field Sample ID:** PTD-CWK-S-1978

**Lab Sample ID:** 71769-8  
**Matrix:** Wipe  
**Percent Solid:** N/A  
**Dilution Factor:** 1.0  
**Collection Date:** 12/08/11  
**Lab Receipt Date:** 12/09/11  
**Extraction Date:** 12/12/11  
**Analysis Date:** 12/14/11

PCB ANALYTICAL RESULTS		
COMPOUND	Quantitation Limit $\mu\text{g/wipe}$	Results $\mu\text{g/wipe}$
PCB-1016	0.5	U
PCB-1221	0.5	U
PCB-1232	0.5	U
PCB-1242	0.5	U
PCB-1248	0.5	U
PCB-1254	0.5	U
PCB-1260	0.5	U
PCB-1262	0.5	U
PCB-1268	0.5	U
<b>Surrogate Standard Recovery</b>		
2,4,5,6-Tetrachloro-m-xylene	86	%
Decachlorobiphenyl	57	%
U=Undetected J=Estimated E=Exceeds Calibration Range B=Detected in Blank		

**METHODOLOGY:** Sample analysis conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 8082.  
Sample preparation conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 3540C.  
Sample cleanup was conducted according to SW-846 Method 3665A.

**COMMENTS:**

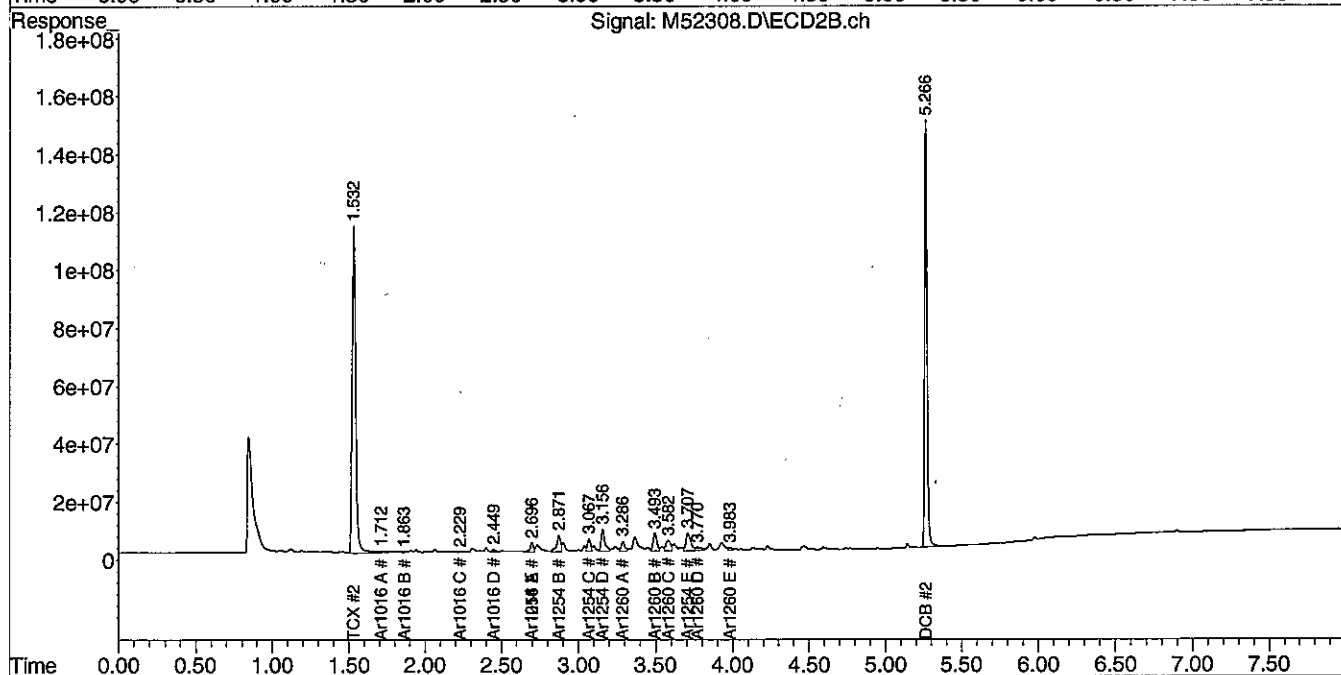
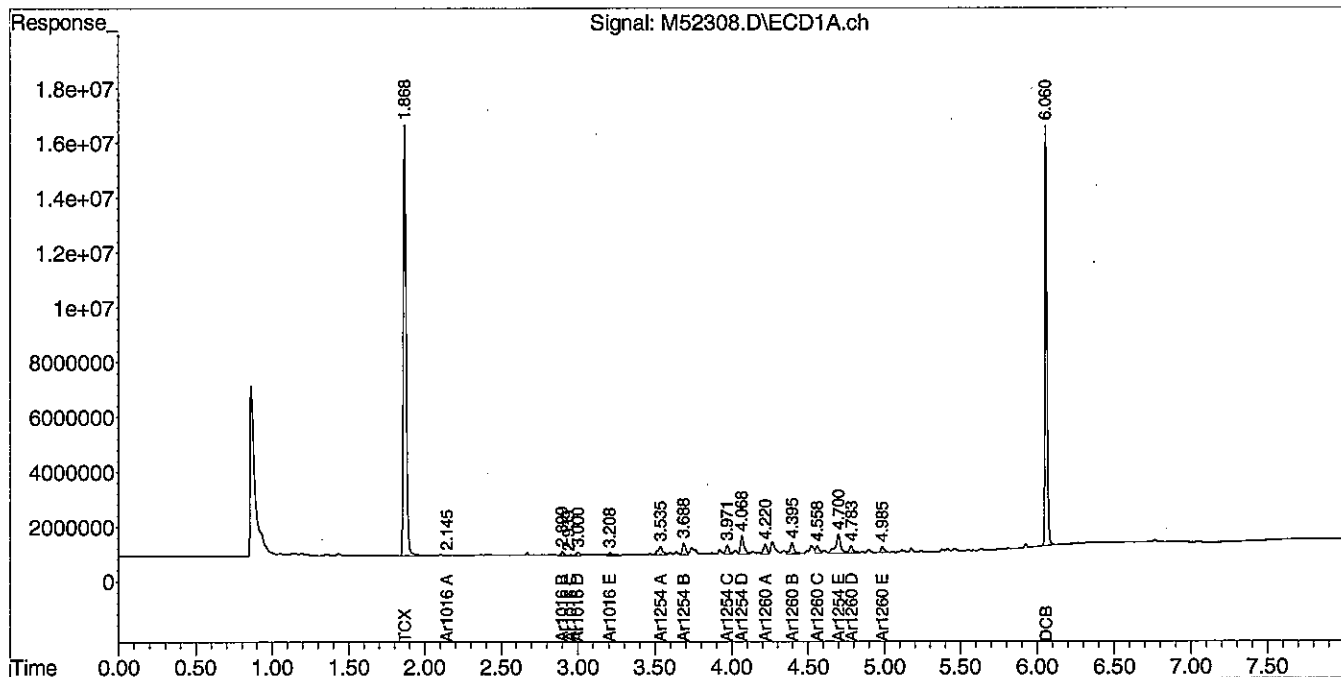
PCB EXT Report

Authorized signature 

Data Path : C:\msdchem\1\DATA\121411-M\  
 Data File : M52308.D  
 Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch  
 Acq On : 14 Dec 2011 3:27 pm  
 Operator : JK  
 Sample : 71769-8,,A/C  
 Misc : SOIL  
 ALS Vial : 9 Sample Multiplier: 1

Integration File signal 1: events.e  
 Integration File signal 2: events2.e  
 Quant Time: Dec 15 09:20:21 2011  
 Quant Method : C:\msdchem\1\METHODS\PCB120711.M  
 Quant Title : SW-846 METHOD 8082 Aroclor 1016/1260/1254  
 QLast Update : Wed Dec 14 08:30:51 2011  
 Response via : Initial Calibration  
 Integrator: ChemStation

Volume Inj. : 2 uL  
 Signal #1 Phase : STX-CLPPesticides Signal #2 Phase: STX-CLPPesticides  
 Signal #1 Info : 30 m x 0.25mm x 0 Signal #2 Info : 30 m x 0.25mm x 0.25 um



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**SAMPLE DATA**

**CLIENT SAMPLE ID**

**Project Name:** Peabody Terrace  
**Project Number:** 210980  
**Field Sample ID:** PTD-CWC-S-1979

**Lab Sample ID:** 71769-9  
**Matrix:** Wipe  
**Percent Solid:** N/A  
**Dilution Factor:** 1.0  
**Collection Date:** 12/08/11  
**Lab Receipt Date:** 12/09/11  
**Extraction Date:** 12/12/11  
**Analysis Date:** 12/14/11

**PCB ANALYTICAL RESULTS**

COMPOUND	Quantitation Limit $\mu\text{g/wipe}$	Results $\mu\text{g/wipe}$
PCB-1016	0.5	U
PCB-1221	0.5	U
PCB-1232	0.5	U
PCB-1242	0.5	U
PCB-1248	0.5	U
PCB-1254	0.5	U
PCB-1260	0.5	U
PCB-1262	0.5	U
PCB-1268	0.5	U
<b><u>Surrogate Standard Recovery</u></b>		
2,4,5,6-Tetrachloro-m-xylene	89 %	
Decachlorobiphenyl	57 %	
U=Undetected J=Estimated E=Exceeds Calibration Range B=Detected in Blank		

**METHODOLOGY:** Sample analysis conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 8082.  
Sample preparation conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 3540C.  
Sample cleanup was conducted according to SW-846 Method 3665A.

**COMMENTS:**

PCB EXT Report

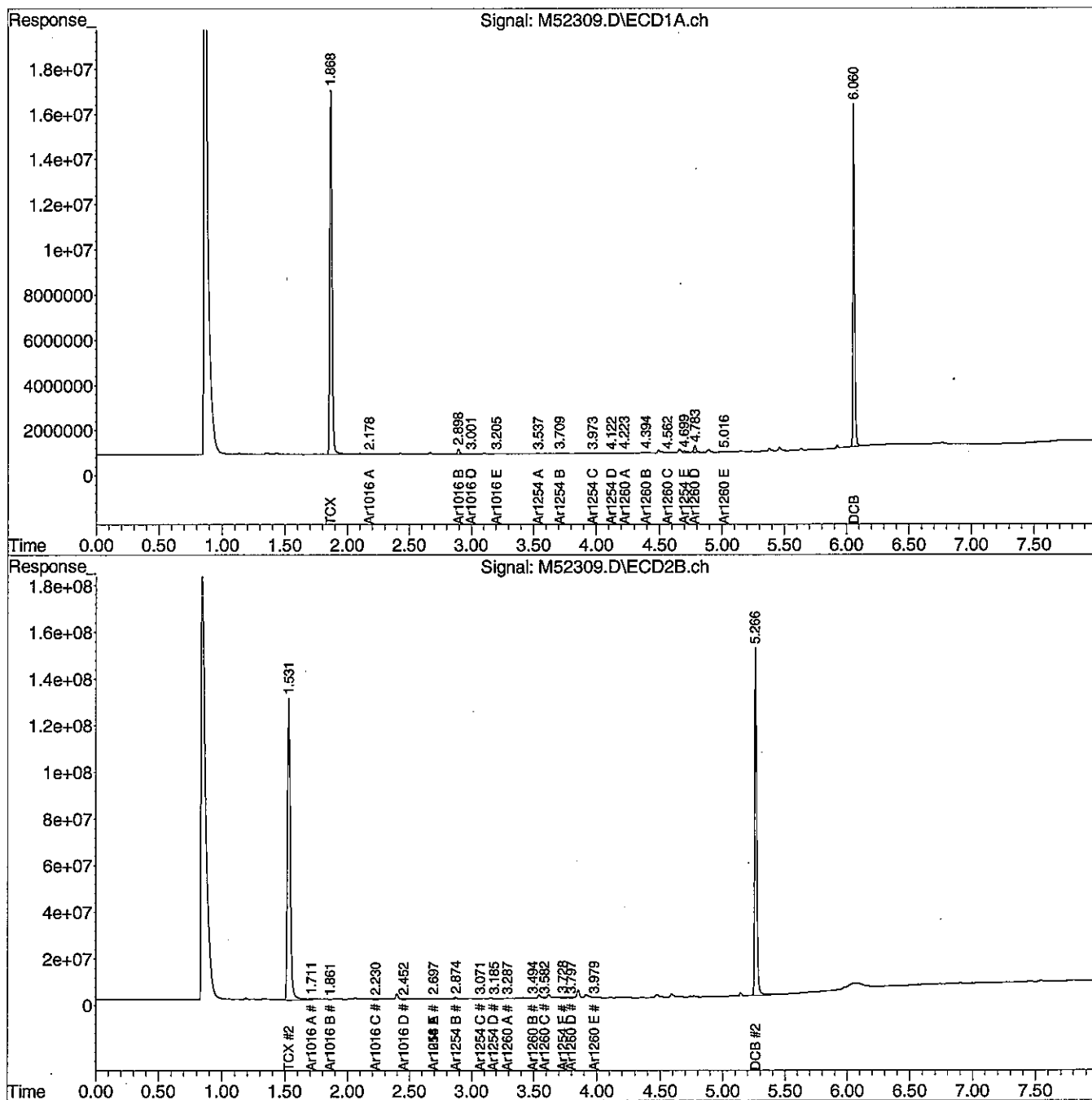
Authorized signature



Data Path : C:\msdchem\1\DATA\121411-M\  
Data File : M52309.D  
Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch  
Acq On : 14 Dec 2011 3:37 pm  
Operator : JK  
Sample : 71769-9,,A/C  
Misc : SOIL  
ALS Vial : 10 Sample Multiplier: 1

Integration File signal 1: events.e  
Integration File signal 2: events2.e  
Quant Time: Dec 15 09:09:07 2011  
Quant Method : C:\msdchem\1\METHODS\PCB120711.M  
Quant Title : SW-846 METHOD 8082 Aroclor 1016/1260/1254  
QLast Update : Wed Dec 14 08:30:51 2011  
Response via : Initial Calibration  
Integrator: ChemStation

Volume Inj. : 2 uL  
Signal #1 Phase : STX-CLPPesticides Signal #2 Phase: STX-CLPPesticides  
Signal #1 Info : 30 m x 0.25mm x 0 Signal #2 Info : 30 m x 0.25mm x 0.25 um



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**SAMPLE DATA**

**CLIENT SAMPLE ID**  
**Project Name:** Peabody Terrace  
**Project Number:** 210980  
**Field Sample ID:** PTD-CWK-S-1980

**Lab Sample ID:** 71769-10  
**Matrix:** Wipe  
**Percent Solid:** N/A  
**Dilution Factor:** 1.0  
**Collection Date:** 12/08/11  
**Lab Receipt Date:** 12/09/11  
**Extraction Date:** 12/12/11  
**Analysis Date:** 12/14/11

PCB ANALYTICAL RESULTS		
COMPOUND	Quantitation Limit $\mu\text{g/wipe}$	Results $\mu\text{g/wipe}$
PCB-1016	0.5	U
PCB-1221	0.5	U
PCB-1232	0.5	U
PCB-1242	0.5	U
PCB-1248	0.5	U
PCB-1254	0.5	U
PCB-1260	0.5	U
PCB-1262	0.5	U
PCB-1268	0.5	U
<b>Surrogate Standard Recovery</b>		
2,4,5,6-Tetrachloro-m-xylene	82	%
Decachlorobiphenyl	55	%
U=Undetected J=Estimated E=Exceeds Calibration Range B=Detected in Blank		

**METHODOLOGY:** Sample analysis conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 8082.  
Sample preparation conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 3540C.  
Sample cleanup was conducted according to SW-846 Method 3665A.

**COMMENTS:**

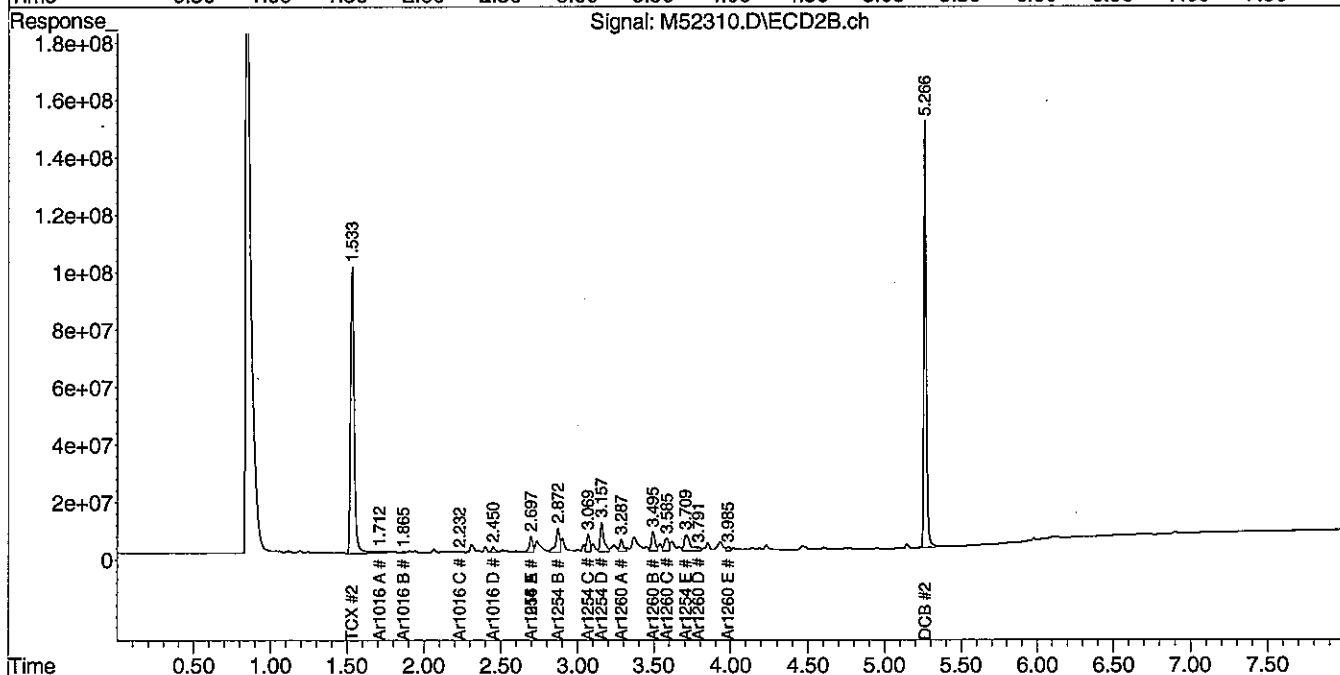
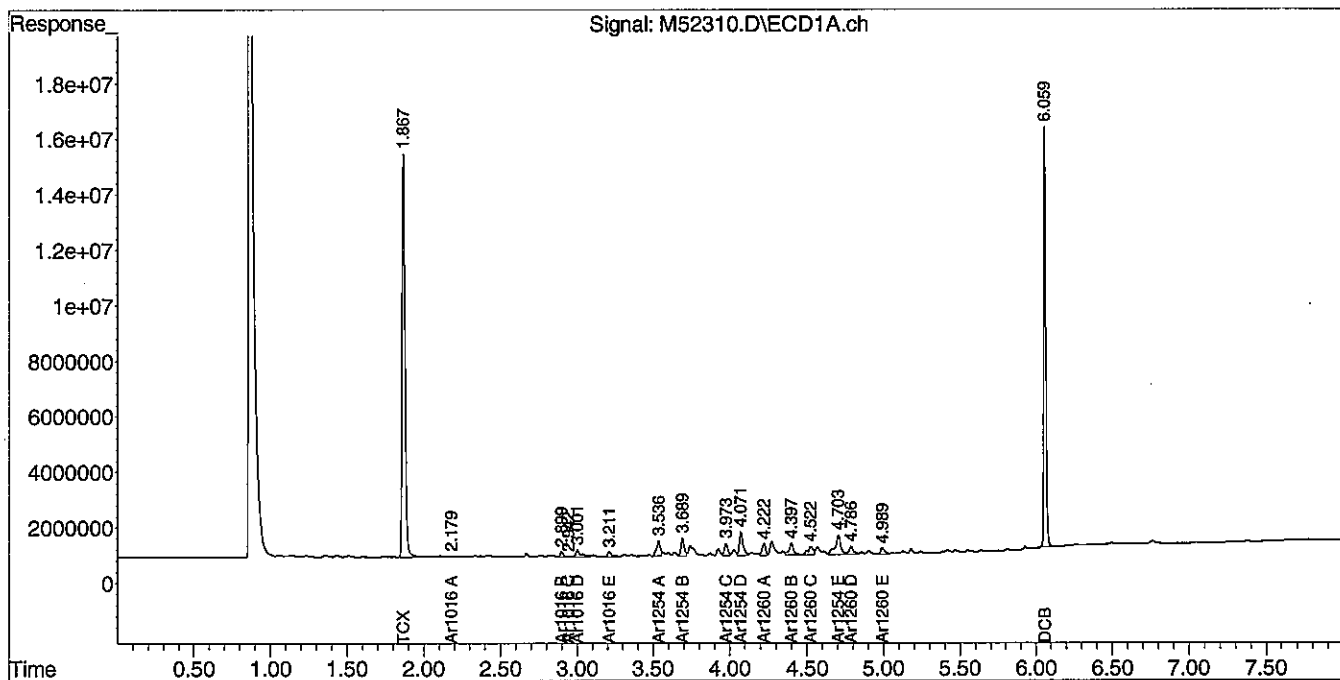
PCB EXT Report

Authorized signature 

Data Path : C:\msdchem\1\DATA\121411-M\  
Data File : M52310.D  
Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch  
Acq On : 14 Dec 2011 3:47 pm  
Operator : JK  
Sample : 71769-10,,A/C  
Misc : SOIL  
ALS Vial : 11 Sample Multiplier: 1

Integration File signal 1: events.e  
Integration File signal 2: events2.e  
Quant Time: Dec 15 09:26:21 2011  
Quant Method : C:\msdchem\1\METHODS\PCB120711.M  
Quant Title : SW-846 METHOD 8082 Aroclor 1016/1260/1254  
QLast Update : Wed Dec 14 08:30:51 2011  
Response via : Initial Calibration  
Integrator: ChemStation

Volume Inj. : 2 uL  
Signal #1 Phase : STX-CLPPesticides Signal #2 Phase: STX-CLPPesticides  
Signal #1 Info : 30 m x 0.25mm x 0 Signal #2 Info : 30 m x 0.25mm x 0.25 um





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**SAMPLE DATA**

**CLIENT SAMPLE ID**

**Project Name:** Peabody Terrace  
**Project Number:** 210980  
**Field Sample ID:** PTD-CWC-S-1981

**Lab Sample ID:** 71769-11  
**Matrix:** Wipe  
**Percent Solid:** N/A  
**Dilution Factor:** 1.0  
**Collection Date:** 12/08/11  
**Lab Receipt Date:** 12/09/11  
**Extraction Date:** 12/12/11  
**Analysis Date:** 12/14/11

**PCB ANALYTICAL RESULTS**

COMPOUND	Quantitation Limit $\mu\text{g/wipe}$	Results $\mu\text{g/wipe}$
PCB-1016	0.5	U
PCB-1221	0.5	U
PCB-1232	0.5	U
PCB-1242	0.5	U
PCB-1248	0.5	U
PCB-1254	0.5	U
PCB-1260	0.5	U
PCB-1262	0.5	U
PCB-1268	0.5	U
<b>Surrogate Standard Recovery</b>		
2,4,5,6-Tetrachloro-m-xylene	84	%
Decachlorobiphenyl	61	%
U=Undetected J=Estimated E=Exceeds Calibration Range B=Detected in Blank		

**METHODOLOGY:** Sample analysis conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 8082.  
Sample preparation conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 3540C.  
Sample cleanup was conducted according to SW-846 Method 3665A.

**COMMENTS:**

PCB EXT Report

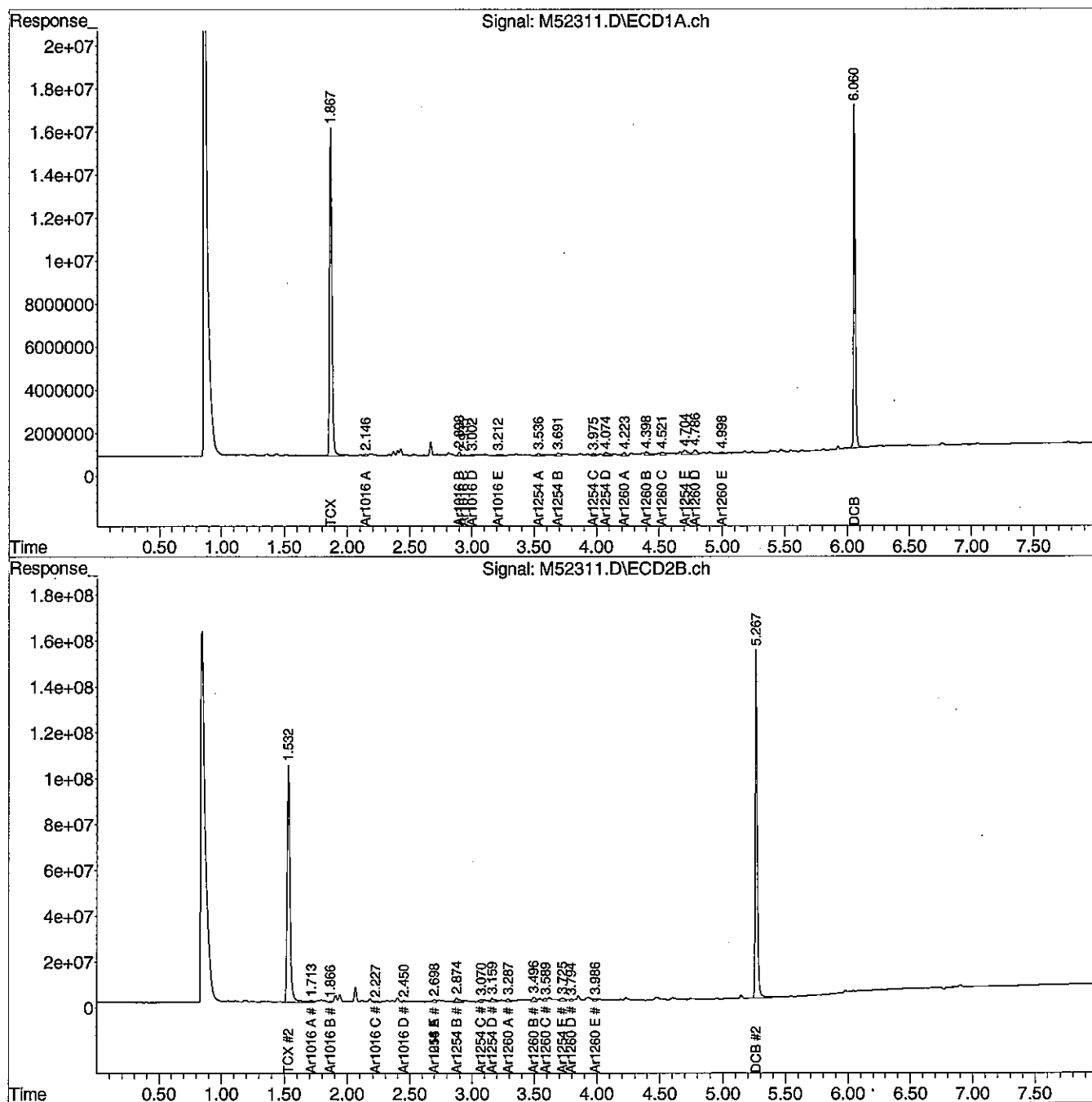
Authorized signature



Data Path : C:\msdchem\1\DATA\121411-M\  
Data File : M52311.D  
Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch  
Acq On : 14 Dec 2011 3:57 pm  
Operator : JK  
Sample : 71769-11,,A/C  
Misc : SOIL  
ALS Vial : 12 Sample Multiplier: 1

Integration File signal 1: events.e  
Integration File signal 2: events2.e  
Quant Time: Dec 15 09:09:11 2011  
Quant Method : C:\msdchem\1\METHODS\PCB120711.M  
Quant Title : SW-846 METHOD 8082 Aroclor 1016/1260/1254  
QLast Update : Wed Dec 14 08:30:51 2011  
Response via : Initial Calibration  
Integrator: ChemStation

Volume Inj. : 2 uL  
Signal #1 Phase : STX-CLPPesticides Signal #2 Phase: STX-CLPPesticides  
Signal #1 Info : 30 m x 0.25mm x 0 Signal #2 Info : 30 m x 0.25mm x 0.25 um



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**SAMPLE DATA**

**CLIENT SAMPLE ID**

**Project Name:** Peabody Terrace  
**Project Number:** 210980  
**Field Sample ID:** PTD-CWK-S-1982

**Lab Sample ID:** 71769-12  
**Matrix:** Wipe  
**Percent Solid:** N/A  
**Dilution Factor:** 1.0  
**Collection Date:** 12/08/11  
**Lab Receipt Date:** 12/09/11  
**Extraction Date:** 12/12/11  
**Analysis Date:** 12/14/11

**PCB ANALYTICAL RESULTS**

COMPOUND	Quantitation Limit µg/wipe	Results µg/wipe
PCB-1016	0.5	U
PCB-1221	0.5	U
PCB-1232	0.5	U
PCB-1242	0.5	U
PCB-1248	0.5	U
PCB-1254	0.5	U
PCB-1260	0.5	U
PCB-1262	0.5	U
PCB-1268	0.5	U
<b><u>Surrogate Standard Recovery</u></b>		
2,4,5,6-Tetrachloro-m-xylene	87	%
Decachlorobiphenyl	60	%
U=Undetected J=Estimated E=Exceeds Calibration Range B=Detected in Blank		

**METHODOLOGY:** Sample analysis conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 8082.  
Sample preparation conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 3540C.  
Sample cleanup was conducted according to SW-846 Method 3665A.

**COMMENTS:**

PCB EXT Report

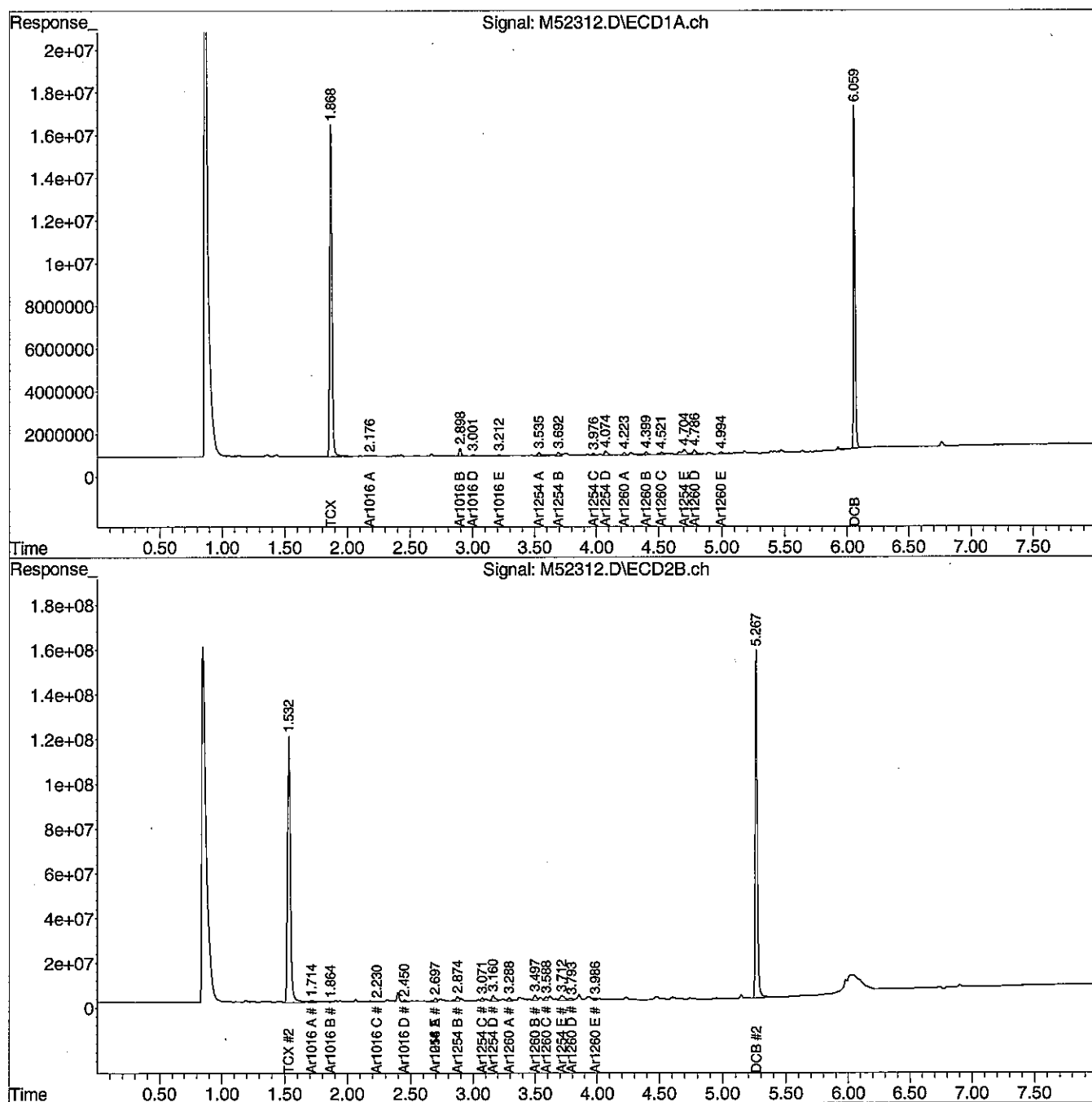
Authorized signature



Data Path : C:\msdchem\1\DATA\121411-M\  
Data File : M52312.D  
Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch  
Acq On : 14 Dec 2011 4:07 pm  
Operator : JK  
Sample : 71769-12,,A/C  
Misc : SOIL  
ALS Vial : 13 Sample Multiplier: 1

Integration File signal 1: events.e  
Integration File signal 2: events2.e  
Quant Time: Dec 15 09:09:13 2011  
Quant Method : C:\msdchem\1\METHODS\PCB120711.M  
Quant Title : SW-846 METHOD 8082 Aroclor 1016/1260/1254  
QLast Update : Wed Dec 14 08:30:51 2011  
Response via : Initial Calibration  
Integrator: ChemStation

Volume Inj. : 2 uL  
Signal #1 Phase : STX-CLPPesticides Signal #2 Phase: STX-CLPPesticides  
Signal #1 Info : 30 m x 0.25mm x 0 Signal #2 Info : 30 m x 0.25mm x 0.25 um



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**SAMPLE DATA**

**CLIENT SAMPLE ID**

**Project Name:** Peabody Terrace  
**Project Number:** 210980  
**Field Sample ID:** PTD-CWC-S-1983

**Lab Sample ID:** 71769-13  
**Matrix:** Wipe  
**Percent Solid:** N/A  
**Dilution Factor:** 1.0  
**Collection Date:** 12/08/11  
**Lab Receipt Date:** 12/09/11  
**Extraction Date:** 12/12/11  
**Analysis Date:** 12/14/11

**PCB ANALYTICAL RESULTS**

COMPOUND	Quantitation Limit $\mu\text{g/wipe}$	Results $\mu\text{g/wipe}$
PCB-1016	0.5	U
PCB-1221	0.5	U
PCB-1232	0.5	U
PCB-1242	0.5	U
PCB-1248	0.5	U
PCB-1254	0.5	U
PCB-1260	0.5	U
PCB-1262	0.5	U
PCB-1268	0.5	U
<b>Surrogate Standard Recovery</b>		
2,4,5,6-Tetrachloro-m-xylene	87	%
Decachlorobiphenyl	61	%
U=Undetected J=Estimated E=Exceeds Calibration Range B=Detected in Blank		

**METHODOLOGY:** Sample analysis conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 8082.  
Sample preparation conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 3540C.  
Sample cleanup was conducted according to SW-846 Method 3665A.

**COMMENTS:**

PCB EXT Report

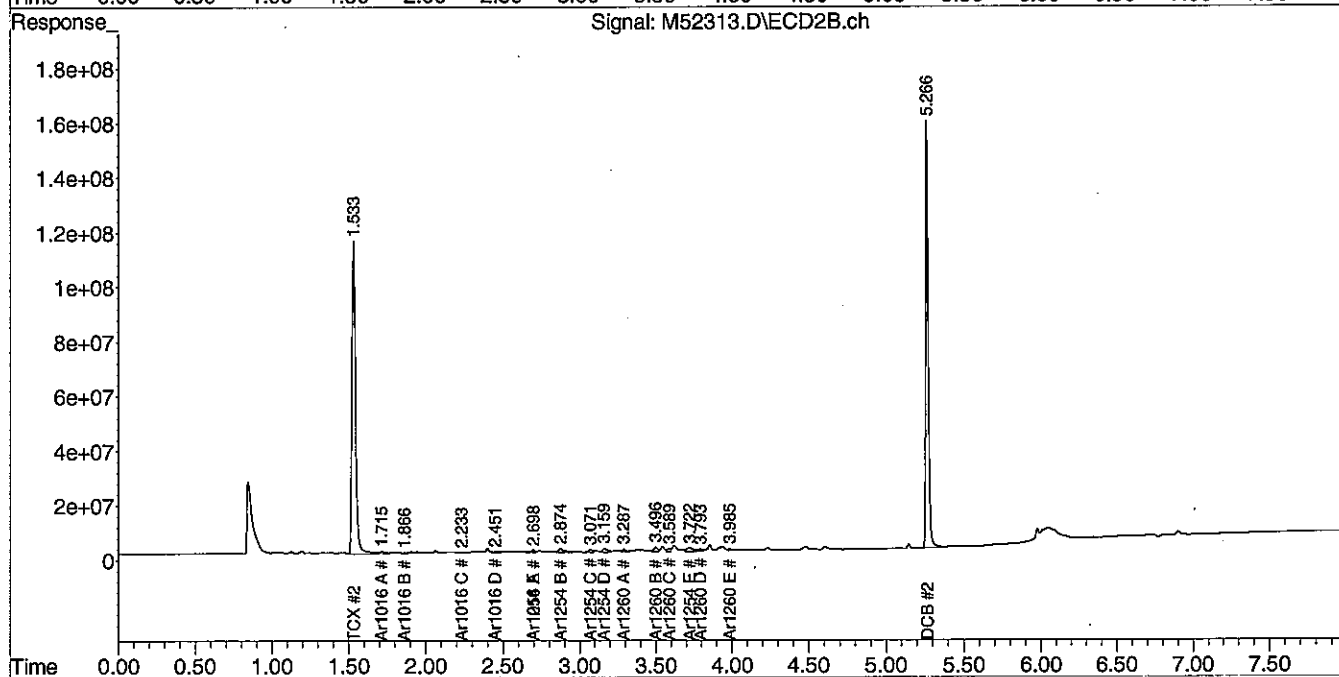
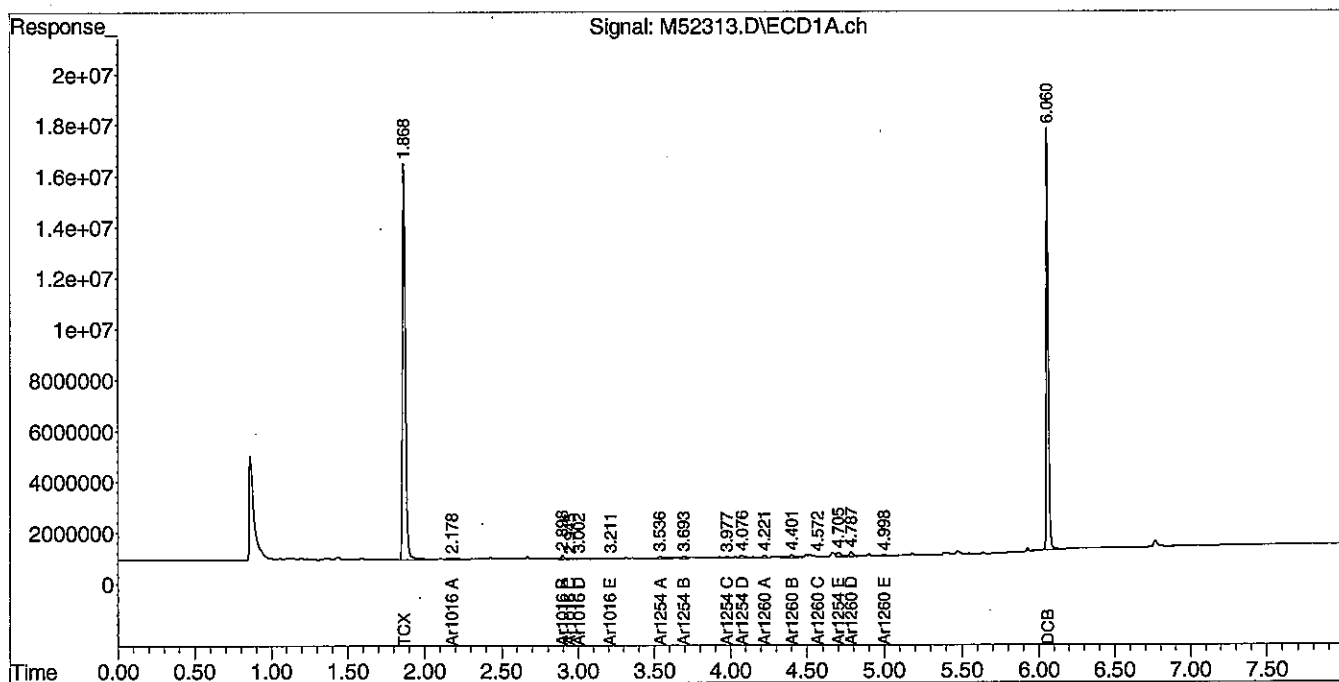
Authorized signature



Data Path : C:\msdchem\1\DATA\121411-M\  
 Data File : M52313.D  
 Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch  
 Acq On : 14 Dec 2011 4:17 pm  
 Operator : JK  
 Sample : 71769-13,,A/C  
 Misc : SOIL  
 ALS Vial : 14 Sample Multiplier: 1

Integration File signal 1: events.e  
 Integration File signal 2: events2.e  
 Quant Time: Dec 15 09:09:15 2011  
 Quant Method : C:\msdchem\1\METHODS\PCB120711.M  
 Quant Title : SW-846 METHOD 8082 Aroclor 1016/1260/1254  
 QLast Update : Wed Dec 14 08:30:51 2011  
 Response via : Initial Calibration  
 Integrator: ChemStation

Volume Inj. : 2 uL  
 Signal #1 Phase : STX-CLPPesticides Signal #2 Phase: STX-CLPPesticides  
 Signal #1 Info : 30 m x 0.25mm x 0 Signal #2 Info : 30 m x 0.25mm x 0.25 um



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**SAMPLE DATA**

**CLIENT SAMPLE ID**

**Project Name:** Peabody Terrace  
**Project Number:** 210980  
**Field Sample ID:** PTD-CWK-S-1984

**Lab Sample ID:** 71769-14  
**Matrix:** Wipe  
**Percent Solid:** N/A  
**Dilution Factor:** 1.0  
**Collection Date:** 12/08/11  
**Lab Receipt Date:** 12/09/11  
**Extraction Date:** 12/12/11  
**Analysis Date:** 12/14/11

**PCB ANALYTICAL RESULTS**

COMPOUND	Quantitation Limit µg/wipe	Results µg/wipe
PCB-1016	0.5	U
PCB-1221	0.5	U
PCB-1232	0.5	U
PCB-1242	0.5	U
PCB-1248	0.5	U
PCB-1254	0.5	4.5
PCB-1260	0.5	U
PCB-1262	0.5	U
PCB-1268	0.5	U
<b>Surrogate Standard Recovery</b>		
2,4,5,6-Tetrachloro-m-xylene	80	%
Decachlorobiphenyl	60	%
U=Undetected J=Estimated E=Exceeds Calibration Range B=Detected in Blank		

**METHODOLOGY:** Sample analysis conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 8082.  
Sample preparation conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 3540C.  
Sample cleanup was conducted according to SW-846 Method 3665A.

**COMMENTS:**

PCB EXT Report

Authorized signature



PCB  
COLUMN RELATIVE PERCENT DIFFERENCE

Instrument ID: M	SDG: 71769
GC Column #1: STX-CLPesticides I	Sample: 71769-14,,A/C
Column ID: 0.25 mm	Data File: M52314.D
GC Column #2: STX-CLPesticides II	Dilution Factor: 1.0
Column ID: 0.25 mm	

Column #1		Column #2		
COMPOUND	SAMPLE RESULT (ug/wipe)	SAMPLE RESULT (ug/wipe)	RPD	#
PCB 1254	4.5	4.1	9.4	

# Column to be used to flag RPD values greater than QC limit of 40%

\* Values outside QC limits

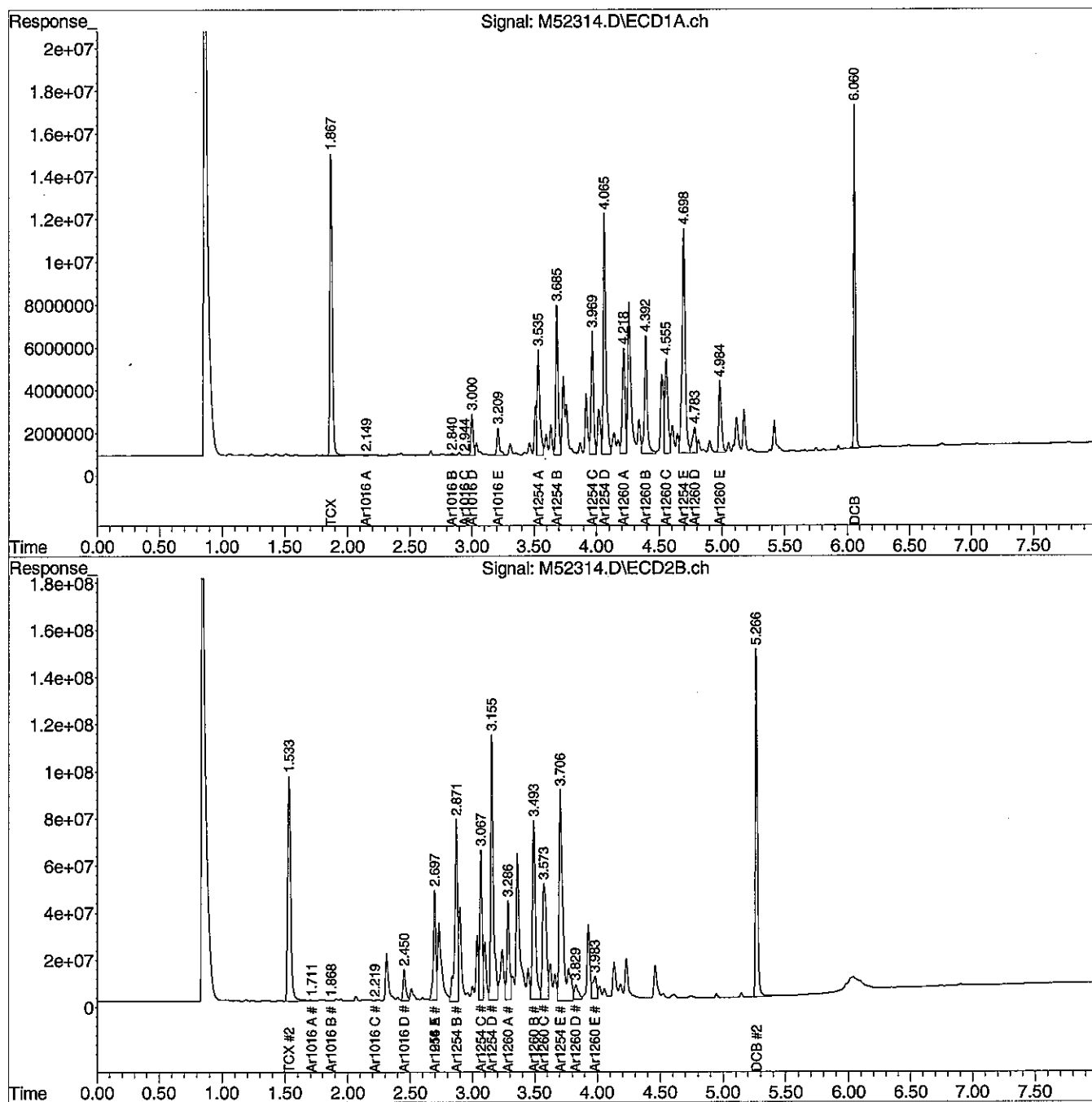
Comments: \_\_\_\_\_



Data Path : C:\msdchem\1\DATA\121411-M\  
Data File : M52314.D  
Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch  
Acq On : 14 Dec 2011 4:27 pm  
Operator : JK  
Sample : 71769-14,,A/C  
Misc : SOIL  
ALS Vial : 15 Sample Multiplier: 1

Integration File signal 1: events.e  
Integration File signal 2: events2.e  
Quant Time: Dec 15 09:27:51 2011  
Quant Method : C:\msdchem\1\METHODS\PCB120711.M  
Quant Title : SW-846 METHOD 8082 Aroclor 1016/1260/1254  
QLast Update : Wed Dec 14 08:30:51 2011  
Response via : Initial Calibration  
Integrator: ChemStation

Volume Inj. : 2 uL  
Signal #1 Phase : STX-CLPPesticides Signal #2 Phase: STX-CLPPesticides  
Signal #1 Info : 30 m x 0.25mm x 0 Signal #2 Info : 30 m x 0.25mm x 0.25 um



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**SAMPLE DATA**

**CLIENT SAMPLE ID**

---

**Project Name:** Peabody Terrace  
**Project Number:** 210980  
**Field Sample ID:** PTD-CWC-S-1985

**Lab Sample ID:** 71769-15  
**Matrix:** Wipe  
**Percent Solid:** N/A  
**Dilution Factor:** 1.0  
**Collection Date:** 12/08/11  
**Lab Receipt Date:** 12/09/11  
**Extraction Date:** 12/12/11  
**Analysis Date:** 12/14/11

PCB ANALYTICAL RESULTS		
COMPOUND	Quantitation Limit µg/wipe	Results µg/wipe
PCB-1016	0.5	U
PCB-1221	0.5	U
PCB-1232	0.5	U
PCB-1242	0.5	U
PCB-1248	0.5	U
PCB-1254	0.5	U
PCB-1260	0.5	U
PCB-1262	0.5	U
PCB-1268	0.5	U
<b>Surrogate Standard Recovery</b>		
2,4,5,6-Tetrachloro-m-xylene	79	%
Decachlorobiphenyl	61	%
U=Undetected J=Estimated E=Exceeds Calibration Range B=Detected in Blank		

**METHODOLOGY:** Sample analysis conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 8082.  
Sample preparation conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 3540C.  
Sample cleanup was conducted according to SW-846 Method 3665A.

**COMMENTS:**

PCB EXT Report

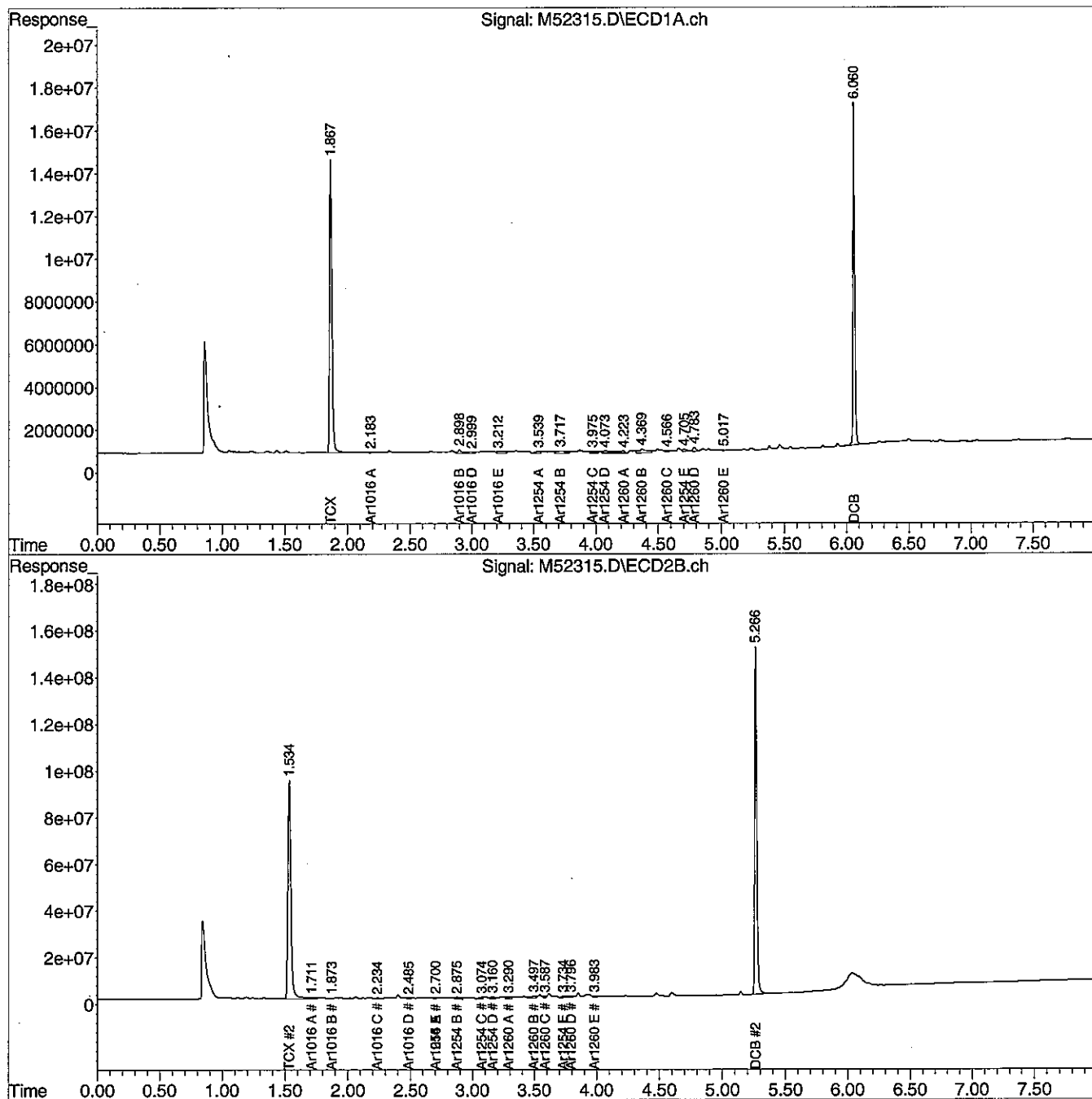
Authorized signature



Data Path : C:\msdchem\1\DATA\121411-M\  
Data File : M52315.D  
Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch  
Acq On : 14 Dec 2011 4:37 pm  
Operator : JK  
Sample : 71769-15,,A/C  
Misc : SOIL  
ALS Vial : 16 Sample Multiplier: 1

Integration File signal 1: events.e  
Integration File signal 2: events2.e  
Quant Time: Dec 15 09:09:19 2011  
Quant Method : C:\msdchem\1\METHODS\PCB120711.M  
Quant Title : SW-846 METHOD 8082 Aroclor 1016/1260/1254  
QLast Update : Wed Dec 14 08:30:51 2011  
Response via : Initial Calibration  
Integrator: ChemStation

Volume Inj. : 2 uL  
Signal #1 Phase : STX-CLPPesticides Signal #2 Phase: STX-CLPPesticides  
Signal #1 Info : 30 m x 0.25mm x 0 Signal #2 Info : 30 m x 0.25mm x 0.25 um



Ms. Amy Wallace  
Woodard & Curran  
41 Hutchins Drive  
Portland ME 04102

December 15, 2011

**SAMPLE DATA**

**CLIENT SAMPLE ID**  
**Project Name:** Peabody Terrace  
**Project Number:** 210980  
**Field Sample ID:** PTD-CWK-S-1986

**Lab Sample ID:** 71769-16  
**Matrix:** Wipe  
**Percent Solid:** N/A  
**Dilution Factor:** 5.0  
**Collection Date:** 12/08/11  
**Lab Receipt Date:** 12/09/11  
**Extraction Date:** 12/12/11  
**Analysis Date:** 12/14/11

PCB ANALYTICAL RESULTS		
COMPOUND	Quantitation Limit µg/wipe	Results µg/wipe
PCB-1016	2.5	U
PCB-1221	2.5	U
PCB-1232	2.5	U
PCB-1242	2.5	U
PCB-1248	2.5	U
PCB-1254	2.5	16.2
PCB-1260	2.5	U
PCB-1262	2.5	U
PCB-1268	2.5	U
<b>Surrogate Standard Recovery</b>		
2,4,5,6-Tetrachloro-m-xylene	84 %	
Decachlorobiphenyl	67 %	
U=Undetected J=Estimated E=Exceeds Calibration Range B=Detected in Blank		

**METHODOLOGY:** Sample analysis conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 8082.  
Sample preparation conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 3540C.  
Sample cleanup was conducted according to SW-846 Method 3665A.

**COMMENTS:**

PCB EXT Report

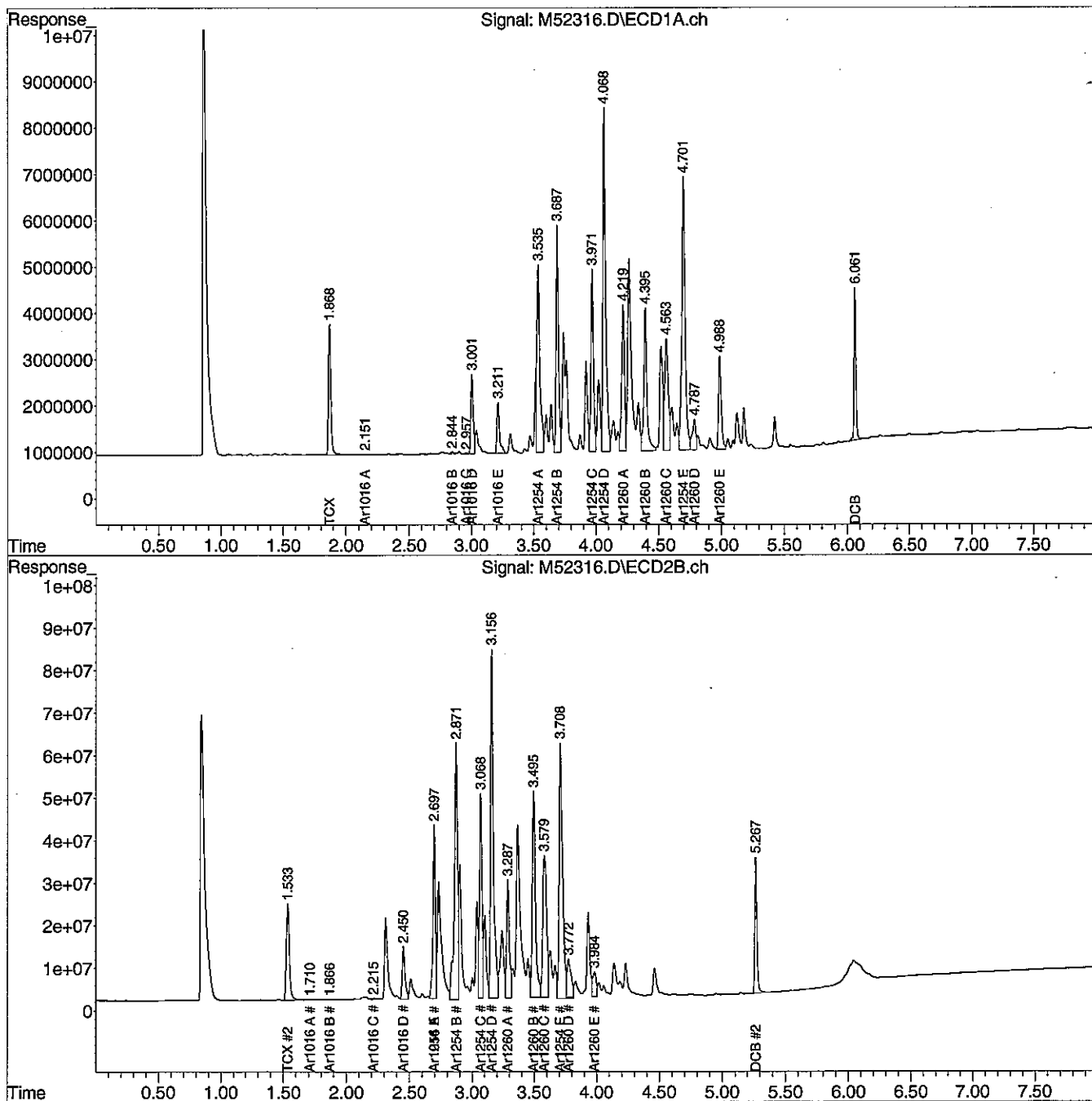
Authorized signature



Data Path : C:\msdchem\1\DATA\121411-M\  
Data File : M52316.D  
Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch  
Acq On : 14 Dec 2011 4:47 pm  
Operator : JK  
Sample : 71769-16,1:5,,A/C  
Misc : SOIL  
ALS Vial : 17 Sample Multiplier: 1

Integration File signal 1: events.e  
Integration File signal 2: events2.e  
Quant Time: Dec 15 09:31:14 2011  
Quant Method : C:\msdchem\1\METHODS\PCB120711.M  
Quant Title : SW-846 METHOD 8082 Aroclor 1016/1260/1254  
QLast Update : Wed Dec 14 08:30:51 2011  
Response via : Initial Calibration  
Integrator: ChemStation

Volume Inj. : 2 uL  
Signal #1 Phase : STX-CLPPesticides Signal #2 Phase: STX-CLPPesticides  
Signal #1 Info : 30 m x 0.25mm x 0 Signal #2 Info : 30 m x 0.25mm x 0.25 um



PCB  
COLUMN RELATIVE PERCENT DIFFERENCE

Instrument ID: M

SDG: 71769

GC Column #1: STX-CLPesticides I

Sample: 71769-16,1:5,,A/C

Column ID: 0.25 mm

Data File: M52316.D

GC Column #2: STX-CLPesticides II

Dilution Factor: 5.0

Column ID: 0.25 mm

Column #1		Column #2		#
COMPOUND	SAMPLE RESULT (ug/wipe)	SAMPLE RESULT (ug/wipe)	RPD	
PCB 1254	16.2	16.0	1.1	

# Column to be used to flag RPD values greater than QC limit of 40%

\* Values outside QC limits

Comments: \_\_\_\_\_

Ms. Amy Wallace  
Woodard & Curran  
41 Hutchins Drive  
Portland ME 04102

December 15, 2011

**SAMPLE DATA**

**CLIENT SAMPLE ID**

**Project Name:** Peabody Terrace  
**Project Number:** 210980  
**Field Sample ID:** PTD-CWC-S-1987

**Lab Sample ID:** 71769-17  
**Matrix:** Wipe  
**Percent Solid:** N/A  
**Dilution Factor:** 1.0  
**Collection Date:** 12/08/11  
**Lab Receipt Date:** 12/09/11  
**Extraction Date:** 12/12/11  
**Analysis Date:** 12/14/11

**PCB ANALYTICAL RESULTS**

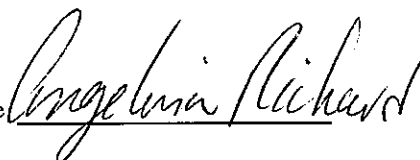
COMPOUND	Quantitation Limit $\mu\text{g/wipe}$	Results $\mu\text{g/wipe}$
PCB-1016	0.5	U
PCB-1221	0.5	U
PCB-1232	0.5	U
PCB-1242	0.5	U
PCB-1248	0.5	U
PCB-1254	0.5	U
PCB-1260	0.5	U
PCB-1262	0.5	U
PCB-1268	0.5	U
<b>Surrogate Standard Recovery</b>		
2,4,5,6-Tetrachloro-m-xylene	83	%
Decachlorobiphenyl	62	%
U=Undetected J=Estimated E=Exceeds Calibration Range B=Detected in Blank		

**METHODOLOGY:** Sample analysis conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 8082.  
Sample preparation conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 3540C.  
Sample cleanup was conducted according to SW-846 Method 3665A.

**COMMENTS:**

PCB EXT Report

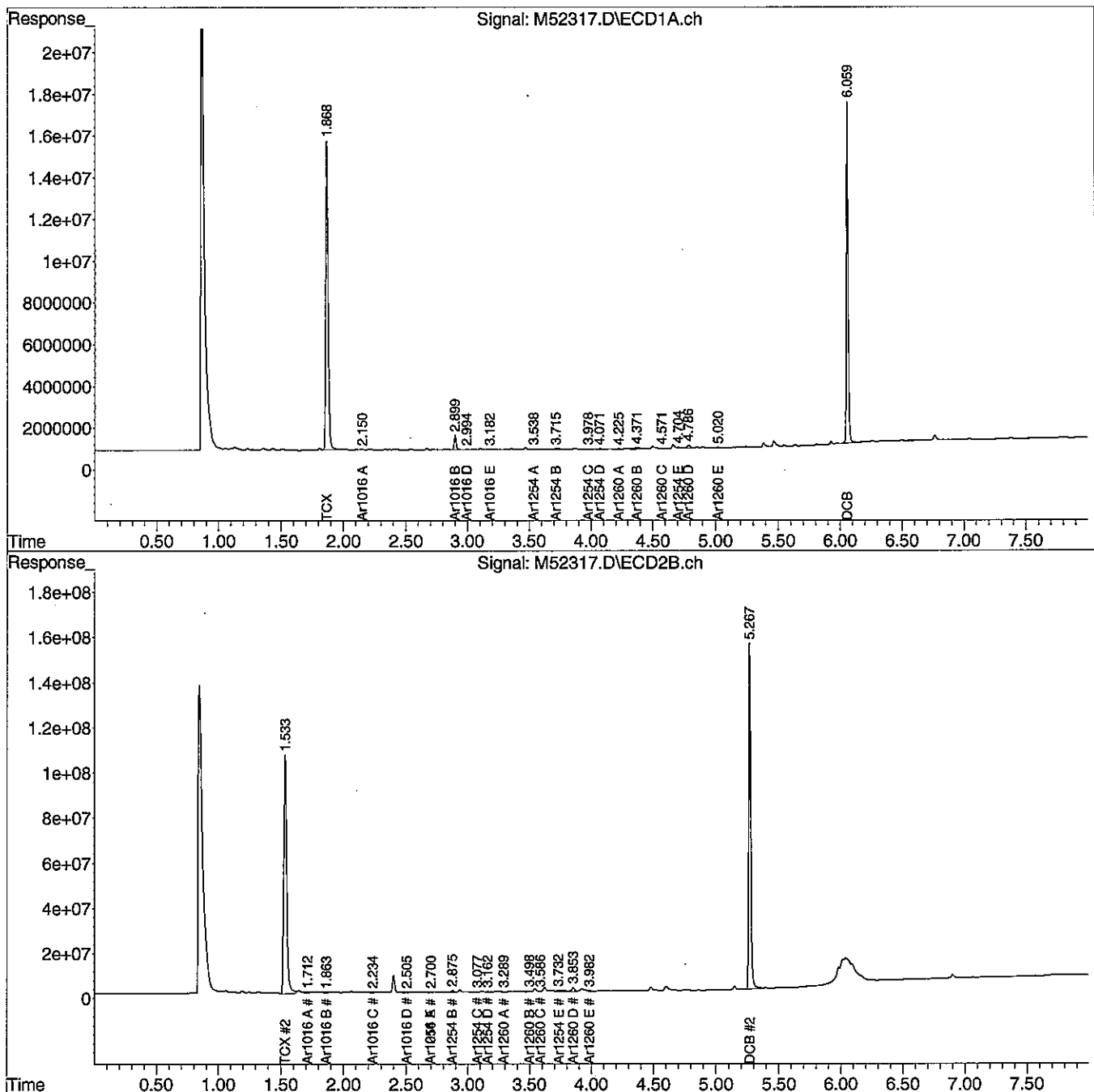
Authorized signature



Data Path : C:\msdchem\1\DATA\121411-M\  
Data File : M52317.D  
Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch  
Acq On : 14 Dec 2011 4:57 pm  
Operator : JK  
Sample : 71769-17,,A/C  
Misc : SOIL  
ALS Vial : 18 Sample Multiplier: 1

Integration File signal 1: events.e  
Integration File signal 2: events2.e  
Quant Time: Dec 15 09:09:23 2011  
Quant Method : C:\msdchem\1\METHODS\PCB120711.M  
Quant Title : SW-846 METHOD 8082 Aroclor 1016/1260/1254  
QLast Update : Wed Dec 14 08:30:51 2011  
Response via : Initial Calibration  
Integrator: ChemStation

Volume Inj. : 2 uL  
Signal #1 Phase : STX-CLPPesticides Signal #2 Phase: STX-CLPPesticides  
Signal #1 Info : 30 m x 0.25mm x 0 Signal #2 Info : 30 m x 0.25mm x 0.25 um





Ms. Amy Wallace  
Woodard & Curran  
41 Hutchins Drive  
Portland ME 04102

December 15, 2011

**SAMPLE DATA**

**CLIENT SAMPLE ID**

**Project Name:** Peabody Terrace  
**Project Number:** 210980  
**Field Sample ID:** PTD-CWK-S-1988

**Lab Sample ID:** 71769-18  
**Matrix:** Wipe  
**Percent Solid:** N/A  
**Dilution Factor:** 1.0  
**Collection Date:** 12/08/11  
**Lab Receipt Date:** 12/09/11  
**Extraction Date:** 12/12/11  
**Analysis Date:** 12/14/11

**PCB ANALYTICAL RESULTS**

COMPOUND	Quantitation Limit µg/wipe	Results µg/wipe
PCB-1016	0.5	U
PCB-1221	0.5	U
PCB-1232	0.5	U
PCB-1242	0.5	U
PCB-1248	0.5	U
PCB-1254	0.5	0.7
PCB-1260	0.5	U
PCB-1262	0.5	U
PCB-1268	0.5	U
<b>Surrogate Standard Recovery</b>		
2,4,5,6-Tetrachloro-m-xylene	80	%
Decachlorobiphenyl	64	%
U=Undetected J=Estimated E=Exceeds Calibration Range B=Detected in Blank		

**METHODOLOGY:** Sample analysis conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 8082.  
Sample preparation conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 3540C.  
Sample cleanup was conducted according to SW-846 Method 3665A.

**COMMENTS:**

PCB EXT Report

Authorized signature



PCB  
COLUMN RELATIVE PERCENT DIFFERENCE

Instrument ID: M	SDG: 71769
GC Column #1: STX-CLPesticides I	Sample: 71769-18,,A/C
Column ID: 0.25 mm	Data File: M52318.D
GC Column #2: STX-CLPesticides II	Dilution Factor: 1.0
Column ID: 0.25 mm	

Column #1		Column #2	
COMPOUND	SAMPLE RESULT (ug/wipe)	SAMPLE RESULT (ug/wipe)	RPD #
PCB 1254	0.7	0.7	3.1

# Column to be used to flag RPD values greater than QC limit of 40%

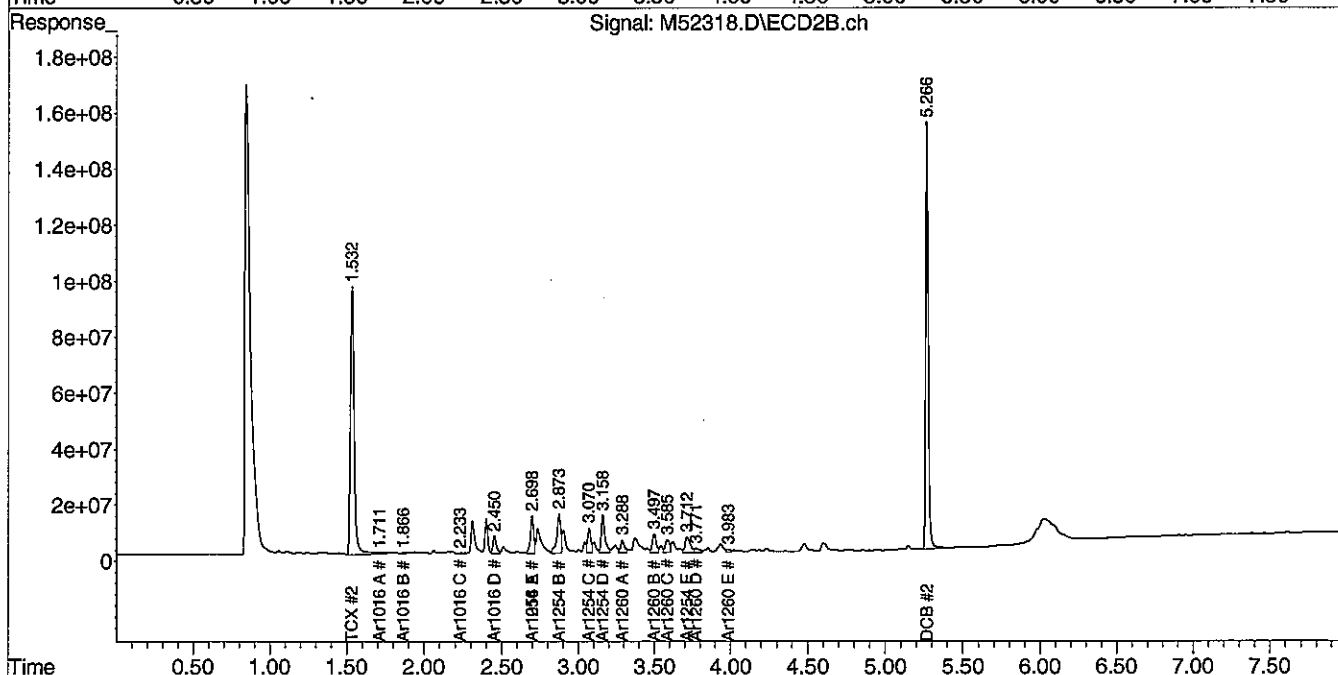
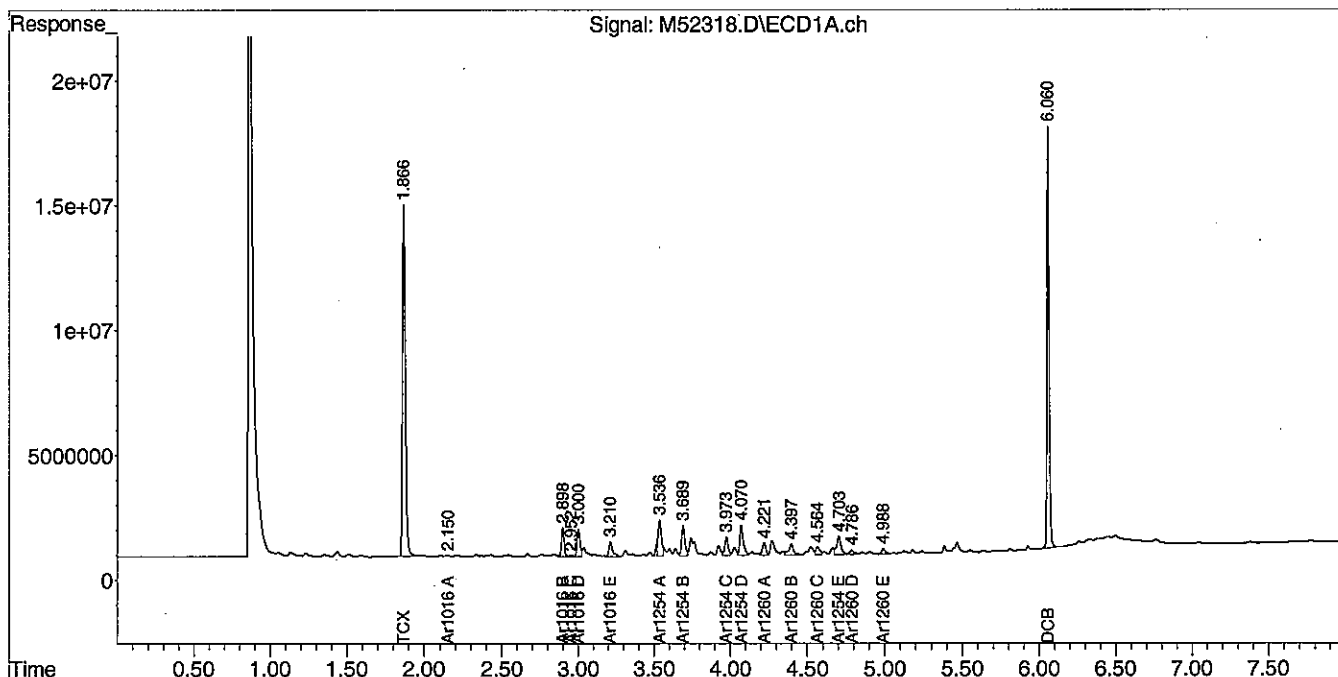
\* Values outside QC limits

Comments: \_\_\_\_\_

Data Path : C:\msdchem\1\DATA\121411-M\  
 Data File : M52318.D  
 Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch  
 Acq On : 14 Dec 2011 5:07 pm  
 Operator : JK  
 Sample : 71769-18,,A/C  
 Misc : SOIL  
 ALS Vial : 19 Sample Multiplier: 1

Integration File signal 1: events.e  
 Integration File signal 2: events2.e  
 Quant Time: Dec 15 09:32:19 2011  
 Quant Method : C:\msdchem\1\METHODS\PCB120711.M  
 Quant Title : SW-846 METHOD 8082 Aroclor 1016/1260/1254  
 QLast Update : Wed Dec 14 08:30:51 2011  
 Response via : Initial Calibration  
 Integrator: ChemStation

Volume Inj. : 2 uL  
 Signal #1 Phase : STX-CLPPesticides Signal #2 Phase: STX-CLPPesticides  
 Signal #1 Info : 30 m x 0.25mm x 0 Signal #2 Info : 30 m x 0.25mm x 0.25 um



Ms. Amy Wallace  
Woodard & Curran  
41 Hutchins Drive  
Portland ME 04102

December 15, 2011

**SAMPLE DATA**

**CLIENT SAMPLE ID**

**Project Name:** Peabody Terrace  
**Project Number:** 210980  
**Field Sample ID:** PTD-CWC-S-1989

**Lab Sample ID:** 71769-19  
**Matrix:** Wipe  
**Percent Solid:** N/A  
**Dilution Factor:** 1.0  
**Collection Date:** 12/08/11  
**Lab Receipt Date:** 12/09/11  
**Extraction Date:** 12/12/11  
**Analysis Date:** 12/14/11

**PCB ANALYTICAL RESULTS**

COMPOUND	Quantitation Limit $\mu\text{g/wipe}$	Results $\mu\text{g/wipe}$
PCB-1016	0.5	U
PCB-1221	0.5	U
PCB-1232	0.5	U
PCB-1242	0.5	U
PCB-1248	0.5	U
PCB-1254	0.5	U
PCB-1260	0.5	U
PCB-1262	0.5	U
PCB-1268	0.5	U
<b>Surrogate Standard Recovery</b>		
2,4,5,6-Tetrachloro-m-xylene	76 %	
Decachlorobiphenyl	62 %	
U=Undetected J=Estimated E=Exceeds Calibration Range B=Detected in Blank		

**METHODOLOGY:** Sample analysis conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 8082.  
Sample preparation conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 3540C.  
Sample cleanup was conducted according to SW-846 Method 3665A.

**COMMENTS:**

PCB EXT Report

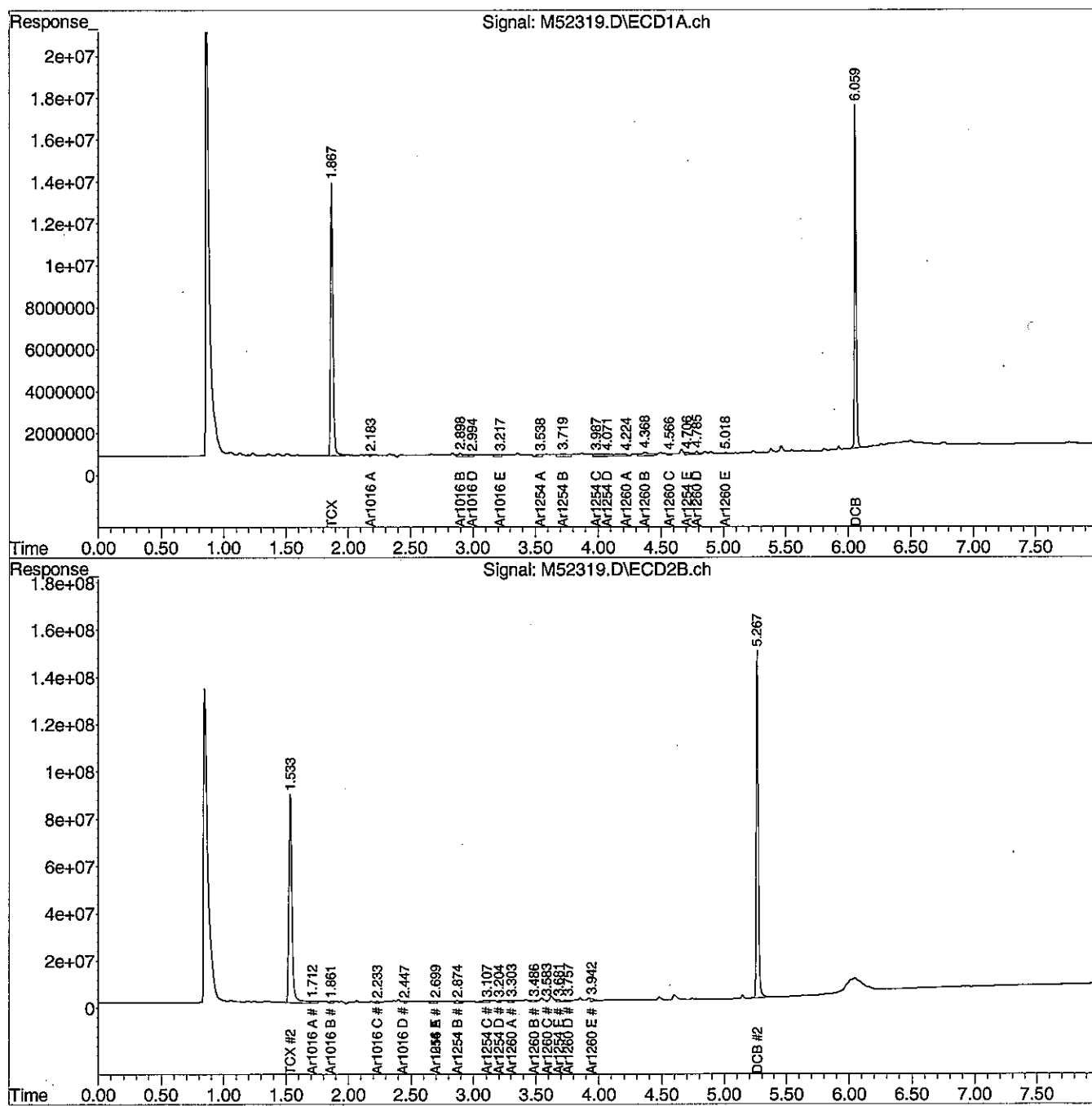
Authorized signature



Data Path : C:\msdchem\1\DATA\121411-M\  
Data File : M52319.D  
Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch  
Acq On : 14 Dec 2011 5:17 pm  
Operator : JK  
Sample : 71769-19,,A/C  
Misc : SOIL  
ALS Vial : 20 Sample Multiplier: 1

Integration File signal 1: events.e  
Integration File signal 2: events2.e  
Quant Time: Dec 15 09:09:27 2011  
Quant Method : C:\msdchem\1\METHODS\PCB120711.M  
Quant Title : SW-846 METHOD 8082 Aroclor 1016/1260/1254  
QLast Update : Wed Dec 14 08:30:51 2011  
Response via : Initial Calibration  
Integrator: ChemStation

Volume Inj. : 2 uL  
Signal #1 Phase : STX-CLPPesticides Signal #2 Phase: STX-CLPPesticides  
Signal #1 Info : 30 m x 0.25mm x 0 Signal #2 Info : 30 m x 0.25mm x 0.25 um



## PCB QC FORMS



Instrument ID: M  
GC Column #1: STX-CLPesticides I  
Column ID: 0.25 mm  
GC Column #2: STX-CLPesticides II  
Column ID: 0.25 mm

[illegible]

# Column to be used to flag recovery values outside of QC limits  
\* Values outside QC limits  
D System Monitoring Compound diluted out



PCB SOIL  
LABORATORY CONTROL SAMPLE/DUPLICATE  
PERCENT RECOVERY

Instrument ID: M

GC Column #1: STX-CLPesticides I

Column ID: 0.25 mm

GC Column #2: STX-CLPesticides II

Column ID: 0.25 mm

SDG: 71769

Non-spiked sample: B121211PSOX2,,A/C

Spike: L121211PSOX2,,A/C

Spike duplicate: LD121211PSOX2,,A/C

COMPOUND	LCS SPIKE	LCSD SPIKE	LOWER	UPPER	RPD	NON-SPIKE	SPIKE	SPIKE	SPIKE DUP		SPIKE DUP			
	ADDED (ug/kg)	ADDED (ug/kg)	LIMIT	LIMIT	LIMIT	RESULT (ug/kg)	RESULT (ug/kg)	% REC	#	RESULT (ug/kg)	% REC	#	RPD	#
PCB 1016	200	200	65	140	30	0	189	94		185	93		1.9	
PCB 1260	200	200	60	130	30	0	160	80		166	83		3.6	
PCB 1016 #2	200	200	65	140	30	0	180	90		187	93		3.7	
PCB 1260 #2	200	200	60	130	30	0	169	84		175	87		3.5	

# Column to be used to flag recovery and RPD values outside of QC limits

\* Values outside QC limits

LCS/LCSD spike added values have been weight adjusted.

Non-spike result of "0" used in place of "U" to allow calculation of spike recovery.

Comments: \_\_\_\_\_  
\_\_\_\_\_

PCB SOIL  
MATRIX SPIKE/DUPLICATE  
PERCENT RECOVERY

Instrument ID: M

GC Column #1: STX-CLPesticides I

Column ID: 0.25 mm

GC Column #2: STX-CLPesticides II

Column ID: 0.25 mm

SDG: 71769

Non-spiked sample: 71769-7,,A/C

Spike: 71769-7,MS,,A/C

Spike duplicate: 71769-7,MSD,,A/C

	MS SPIKE	MSD SPIKE	LOWER	UPPER	RPD	NON-SPIKE	SPIKE	SPIKE		SPIKE DUP	SPIKE DUP			
COMPOUND	ADDED (ug/kg)	ADDED (ug/kg)	LIMIT	LIMIT	LIMIT	RESULT (ug/kg)	RESULT (ug/kg)	% REC	#	RESULT (ug/kg)	% REC	#	RPD	#
PCB 1016	1551	1723	65	140	30	0	1515	98		1688	98		10.8	
PCB 1260	1551	1723	60	130	30	0	1651	106		1775	103		7.2	
PCB 1016 #2	1551	1723	65	140	30	0	1421	92		1514	88		6.3	
PCB 1260 #2	1551	1723	60	130	30	0	1149	74		1217	71		5.7	

# Column to be used to flag recovery and RPD values outside of QC limits

\* Values outside QC limits

MS/MSD spike added values have been weight adjusted.

Non-spike result of "0" used in place of "U" to allow calculation of spike recovery.

Comments: \_\_\_\_\_  
\_\_\_\_\_


## CHAIN OF CUSTODIES

[illegible]

▲ label says "PTD-CWC-S-1981"

→ use IDs on labels, can not connect.

# Chain Of Custody Form

 <b>environmental laboratory LLC</b> 195 Commerce Way Suite E Portsmouth, NH 03801 Phone (603) 436-5111 Fax (603) 430-2151		<b>For Analytics Use Only</b> Rev. 4/03/28/08	
Project#: <u>210980</u> Proj. Name: <u>Peabody Terrace</u> Company: <u>Woodard &amp; Curran</u> Contact: <u>Amy Wallace</u> Address: <u>41 Hutchins Drive</u> <u>Portland Maine</u> Phone: <u>207-774-2112</u> PO# <u>          </u> Quote # <u>          </u> Sampler (Signature): <u>Jim Russell</u>		Samples were: 1) Shipped or <del>hand-delivered</del> 2) Temp blank °C <u>3-3.4°</u> 3) Received in good condition <input checked="" type="checkbox"/> or N 4) pH checked by: <u>N/A</u> 5) Labels checked by: <u>BB 12/19/11</u>	
Matrix Key: C = Concrete WP = Wipe WW = Wastewater SW = Surface Water GW = Groundwater DW = Drinking Water S = Soil/Sludge O = Oil E = Extract X = Other		Container Key P=plastic G=glass	
Preservation Unpres <input checked="" type="checkbox"/> °C <input checked="" type="checkbox"/> °F <input checked="" type="checkbox"/> HCL <input checked="" type="checkbox"/> Methanol <input checked="" type="checkbox"/> Other		Date: <u>12/18/11</u> Time: <u>12:30</u> Received By: <u>Jim Russell</u>	
Station Identification Sample Date Sample Time Analysis		Matrix Container number pH Analytics Sample #	
PTD-CWC-S-1982 12/18/11 1400 PCBs		X WP 1 G 71769-12	
PTD-CWC-S-1983 12/18/11 1405 PCBs		X WP 1 G -13	
PTD-CWC-S-1984 12/18/11 1415 PCBs		X WP 1 G -14	
PTD-CWC-S-1985 12/18/11 1420 PCBs		X WP 1 G -15	
PTD-CWC-S-1986 12/18/11 1425 PCBs		X WP 1 G -16	
PTD-CWC-S-1987 12/18/11 1430 PCBs		X WP 1 G -17	
PTD-CWC-S-1988 12/18/11 1435 PCBs		X WP 1 G -18	
PTD-CWC-S-1989 12/18/11 1440 PCBs		X WP 1 G -19	
Date: <u>12/18/11</u> Time: <u>12:30</u> Received By: <u>Jim Russell</u>		Date: <u>12/18/11</u> Time: <u>12:30</u> Received By: <u>Jim Russell</u>	
Comments / Instructions: <u>PCBs 8082 Soxhlet</u> Email Results to: <u>Shane@woodardcurran.com</u> <u>AWallace@</u> <u>JRussell@</u>		Project Requirements: Report Type: <input checked="" type="checkbox"/> MCP <input type="checkbox"/> CTCR <input type="checkbox"/> DOD <input type="checkbox"/> Standard Level I <input checked="" type="checkbox"/> Level II <input type="checkbox"/> Level III <input type="checkbox"/> Level IV <input type="checkbox"/> Standard State: <input checked="" type="checkbox"/> NH <input type="checkbox"/> MA <input type="checkbox"/> ME <input type="checkbox"/> CT <input type="checkbox"/> RI (eg. S-1 or GW-1) EDD Required: Y* <input type="checkbox"/> N* <input checked="" type="checkbox"/> G/S Key Type: <u>          </u>	
Turnaround Request Standard <input checked="" type="checkbox"/> Priority <input type="checkbox"/> Due Date <u>5 day</u>		Other: <u>          </u> *Fee may apply Page <u>2</u> of <u>2</u>	



**From:** "Data Check, Inc." <datachck@tds.net>  
**Subject:** 71769  
**Date:** January 16, 2012 6:00:13 AM EST  
**To:** Melissa Gulli <mgulli@analyticsslab.com>  
**Cc:** Amy Wallace <awallace@woodardcurran.com>  
**Reply-To:** datachck@tds.net

---

Hi Melissa,

The first page of the COC indicates that the field IDs are incorrect for four samples and that the ID listed on the labels should be used. The laboratory used the IDs listed on the COC to process these samples. Is this correct?

Thanks,  
Gloria

--

Gloria J. Switalski, President  
Data Check, Inc.  
PO Box 29  
81 Meaderboro Road  
New Durham, NH 03855  
(603) 859-8979  
datachck@tds.net

December 22, 2011

Ms. Amy Wallace  
Woodard & Curran  
41 Hutchins Drive  
Portland ME 04102

**RE: Analytical Results Case Narrative  
Analytics # 71823  
Peabody Terrace Project No: 210980**

Dear Ms. Wallace;

Enclosed please find the analytical results for samples submitted for the above-mentioned project. The attached Cover Page lists the sample IDs, Lab tracking numbers and collection dates for the samples included in this deliverable.

Samples were analyzed for Polychlorinated Biphenyls (PCBs) by EPA Method 8082.

Unless otherwise noted in the Non-conformance Summary listed below, all of the quality control (QC) criteria including initial calibration, calibration verification, surrogate recovery, holding time and method accuracy/precision for these analyses were within acceptable limits.

This Level II data package has been assembled in the following order:

- Case Narrative/Non-Conformance Summary
- Sample Log Sheet - Cover Page
- PCB Form 1 Data Sheet for Samples and Blanks
- Chromatograms
- PCB Form 10 Confirmation Results
- PCB Form 3 MS/MSD (LCS) Recoveries
- Chain of Custody (COC) Forms



**QC NON-CONFORMANCE SUMMARY**

**Sample Receipt:**  
No exceptions.

**PCBs by EPA Method 8082:**  
No results were reported below the quantitation limit.

If you have any questions on these results, please do not hesitate to contact me.

Sincerely,  
ANALYTICS Environmental Laboratory, LLC



Stephen L. Knollmeyer  
Laboratory Director

Ms. Amy Wallace  
Woodard & Curran  
41 Hutchins Drive  
Portland ME 04102

**Report Number: 71823**

**Revision: Rev. 0**

**Re: Peabody Terrace (Project No: 210980)**

Enclosed are the results of the analyses on your sample(s). Samples were received on 16 December 2011 and analyzed for the tests listed. Samples were received in acceptable condition, with the exceptions noted below or on the chain of custody. These results pertain to samples as received by the laboratory and for the analytical tests requested on the chain of custody. The results reported herein conform to the most current NELAC standards, where applicable, unless otherwise narrated in the body of the report. Please see individual reports for specific methodologies and references.

<u>Lab Number</u>	<u>Sample Date</u>	<u>Station Location</u>	<u>Analysis</u>	<u>Comments</u>
71823-1	12/16/11	PTZ-CBC-N-2008	EPA 8082 (PCBs only)	
71823-2	12/16/11	PTD-CBC-S-2007	Electronic Data Deliverable	
	12/16/11	PTD-CBC-S-2007	EPA 8082 (PCBs only)	

**Sample Receipt Exceptions:** None

Analytics Environmental Laboratory is certified by the states of New Hampshire, Maine, Massachusetts, Connecticut, Rhode Island, Virginia, Maryland, and North Carolina, and is accredited by the Department of Defense (DOD) ELAP program. A list of actual certified parameters is available upon request.

If you have any questions on these results, please do not hesitate to contact us.

Authorized signature

  
Stephen L. Knollmeyer Lab. Director

Date

12/22/2011

**This report shall not be reproduced, except in full, without the written consent of Analytics Environmental Laboratory, LLC.**

### MassDEP Analytical Protocol Certification Form

Laboratory Name: Analytics Environmental Laboratory, LLC

Project #: 71823

Project Location: Peabody Terrace

RTN:

This Form provides certifications for the following data set. Laboratory Sample ID Number(s):

71823-1, 71823-2

Matrices: ☐ Groundwater/Surface Water ☐ Soil/Sediment ☐ Drinking Water ☐ Air ☒ Other

**CAM Protocol** (check all that apply below):

8260 VOC CAM II A <input type="checkbox"/>	7470/7471 Hg CAM III B <input type="checkbox"/>	MassDEP VPH CAM IV A <input type="checkbox"/>	8081 Pesticides CAM V B <input type="checkbox"/>	7196 Hex Cr CAM VI B <input type="checkbox"/>	MassDEP APH CAM IX A <input type="checkbox"/>
8270 SVOC CAM II B <input type="checkbox"/>	7010 Metals CAM III C <input type="checkbox"/>	MassDEP EPH CAM IV B <input type="checkbox"/>	8151 Herbicides CAM V C <input type="checkbox"/>	8330 Explosives CAM VIII A <input type="checkbox"/>	TO-15 VOC CAM IX B <input type="checkbox"/>
6010 Metals CAM III A <input type="checkbox"/>	6020 Metals CAM III D <input type="checkbox"/>	8082 PCB CAM V A <input checked="" type="checkbox"/>	9014 Total Cyanide/PAC CAM VI A <input type="checkbox"/>	6860 Perchlorate CAM VIII B <input type="checkbox"/>	

*Affirmative Responses to Questions A through F are required for "Presumptive Certainty" status*

<b>A</b>	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
<b>B</b>	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
<b>C</b>	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
<b>D</b>	Does the laboratory report comply with all reporting requirements specified in CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data"?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
<b>E</b>	a. VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? (Refer to individual method(s) for a list of significant modifications). b. APH and TO-15 Methods only: Was the complete analyte list reported for each method?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Yes <input type="checkbox"/> No
<b>F</b>	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No

*Responses to Questions G, H and I below are required for "Presumptive Certainty" status*

<b>G</b>	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <sup>1</sup>
----------	---	--

**Data User Note:** Data that achieve "Presumptive Certainty" status may not necessarily meet the data usability and representativeness requirements described in 310 CMR 40.1056 (2)(k) and WSC-07-350.

<b>H</b>	Were ALL QC performance standards specified in the CAM protocol(s) achieved?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <sup>1</sup>
<b>I</b>	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <sup>1</sup>

<sup>1</sup> All negative responses must be addressed in an attached laboratory narrative.

*I, the undersigned, attest under the pains and penalties of perjury that, based upon my personal inquiry of those responsible for obtaining the information, the material contained in this analytical report is, to the best of my knowledge and belief, accurate and complete.*

Signature: 

Position: Laboratory Director

Printed Name: Stephen L. Knollmeyer

Date: December 22, 2011

## PCB DATA SUMMARIES

Ms. Amy Wallace  
Woodard & Curran  
41 Hutchins Drive  
Portland ME 04102

December 22, 2011

**SAMPLE DATA**

**CLIENT SAMPLE ID**

**Project Name:** Peabody Terrace

**Project Number:** 210980

**Field Sample ID:** Lab QC

**Lab Sample ID:** B121911PSOX

**Matrix:** Soil

**Percent Solid:** 100

**Dilution Factor:** 1.0

**Collection Date:**

**Lab Receipt Date:**

**Extraction Date:** 12/19/11

**Analysis Date:** 12/20/11

**PCB ANALYTICAL RESULTS**

COMPOUND	Quantitation Limit µg/kg	Results µg/kg
PCB-1016	33	U
PCB-1221	33	U
PCB-1232	33	U
PCB-1242	33	U
PCB-1248	33	U
PCB-1254	33	U
PCB-1260	33	U
PCB-1262	33	U
PCB-1268	33	U
<b><u>Surrogate Standard Recovery</u></b>		
2,4,5,6-Tetrachloro-m-xylene	87	%
Decachlorobiphenyl	82	%
U=Undetected J=Estimated E=Exceeds Calibration Range B=Detected in Blank		

**METHODOLOGY:** Sample analysis conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 8082.  
Sample preparation conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 3540C.  
Sample cleanup was conducted according to SW-846 Method 3665A.

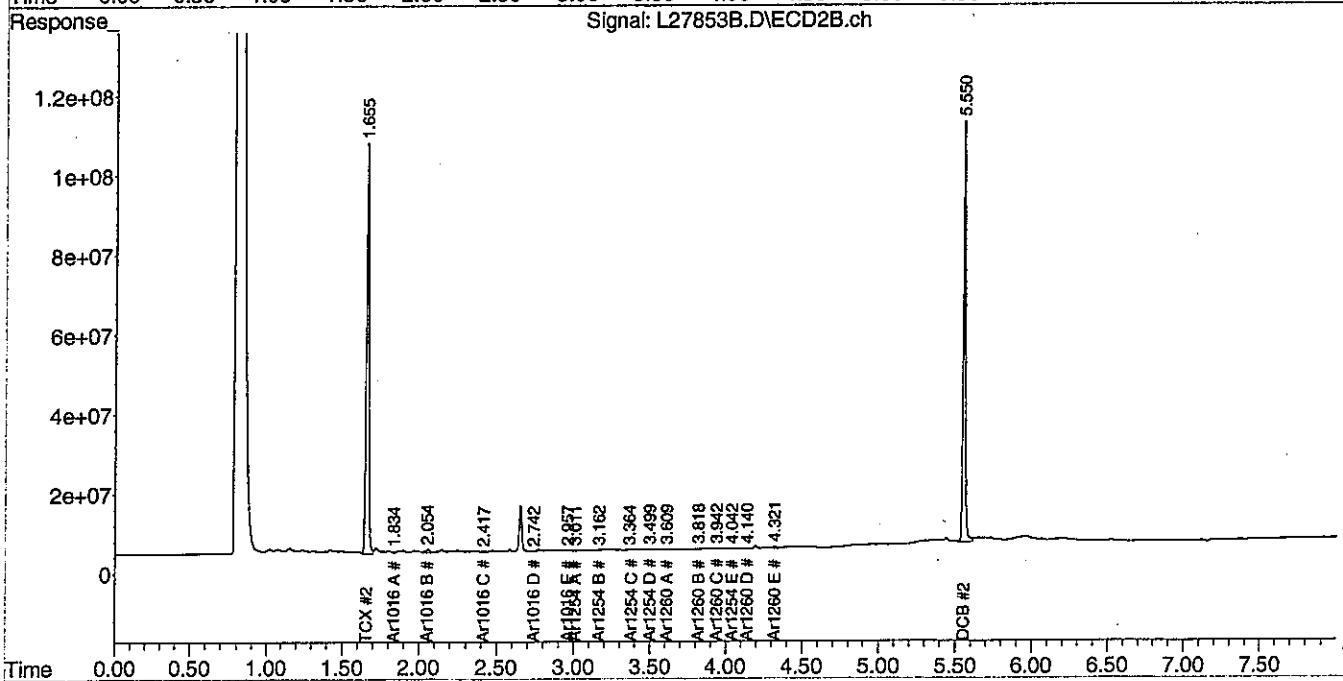
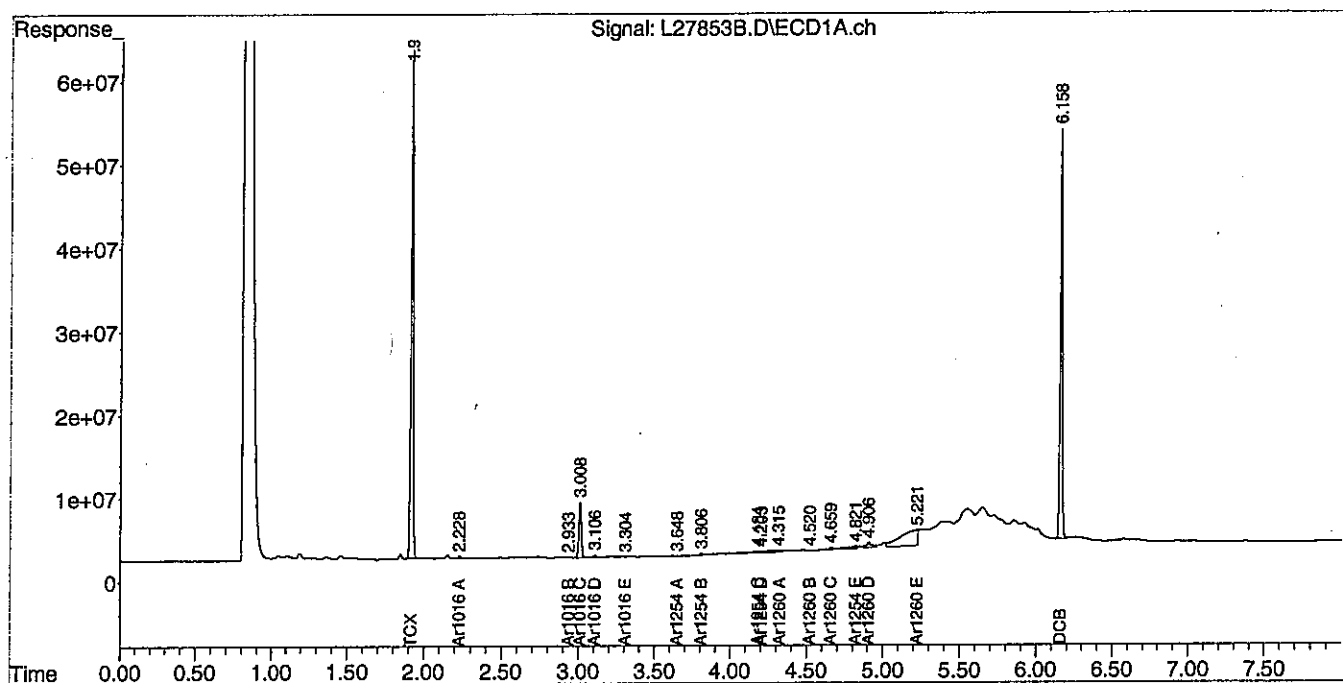
**COMMENTS:** Results are expressed on a dry weight basis.



Data Path : C:\msdchem\1\DATA\122011-L\  
 Data File : L27853B.D  
 Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch  
 Acq On : 20 Dec 2011 12:13 pm  
 Operator : JK  
 Sample : B121911PSOX,,A/C  
 Misc : SOIL  
 ALS Vial : 6 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Dec 20 15:44:52 2011  
 Quant Method : C:\msdchem\1\METHODS\PCB111711.M  
 Quant Title : SW-846 METHOD 8082 Aroclor 1016/1260/1254  
 QLast Update : Mon Dec 05 10:16:06 2011  
 Response via : Initial Calibration  
 Integrator: ChemStation

Volume Inj. : 2 uL  
 Signal #1 Phase : STX-CLPPesticides Signal #2 Phase: STX-CLPPesticides  
 Signal #1 Info : 30 m x 0.25mm x 0 Signal #2 Info : 30 m x 0.25mm x 0.25 um



Ms. Amy Wallace  
Woodard & Curran  
41 Hutchins Drive  
Portland ME 04102

December 21, 2011

**SAMPLE DATA**

**CLIENT SAMPLE ID**

**Project Name:** Peabody Terrace  
**Project Number:** 210980  
**Field Sample ID:** Lab QC

**Lab Sample ID:** B121911PSOX RR  
**Matrix:** Soil  
**Percent Solid:** 100  
**Dilution Factor:** 1.0  
**Collection Date:**  
**Lab Receipt Date:**  
**Extraction Date:** 12/19/11  
**Analysis Date:** 12/20/11

**PCB ANALYTICAL RESULTS**

COMPOUND	Quantitation Limit $\mu\text{g/kg}$	Results $\mu\text{g/kg}$
PCB-1016	33	U
PCB-1221	33	U
PCB-1232	33	U
PCB-1242	33	U
PCB-1248	33	U
PCB-1254	33	U
PCB-1260	33	U
PCB-1262	33	U
PCB-1268	33	U
<b><u>Surrogate Standard Recovery</u></b>		
2,4,5,6-Tetrachloro-m-xylene	87	%
Decachlorobiphenyl	86	%
U=Undetected J=Estimated E=Exceeds Calibration Range B=Detected in Blank		

**METHODOLOGY:** Sample analysis conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 8082.  
Sample preparation conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 3540C.  
Sample cleanup was conducted according to SW-846 Method 3665A.

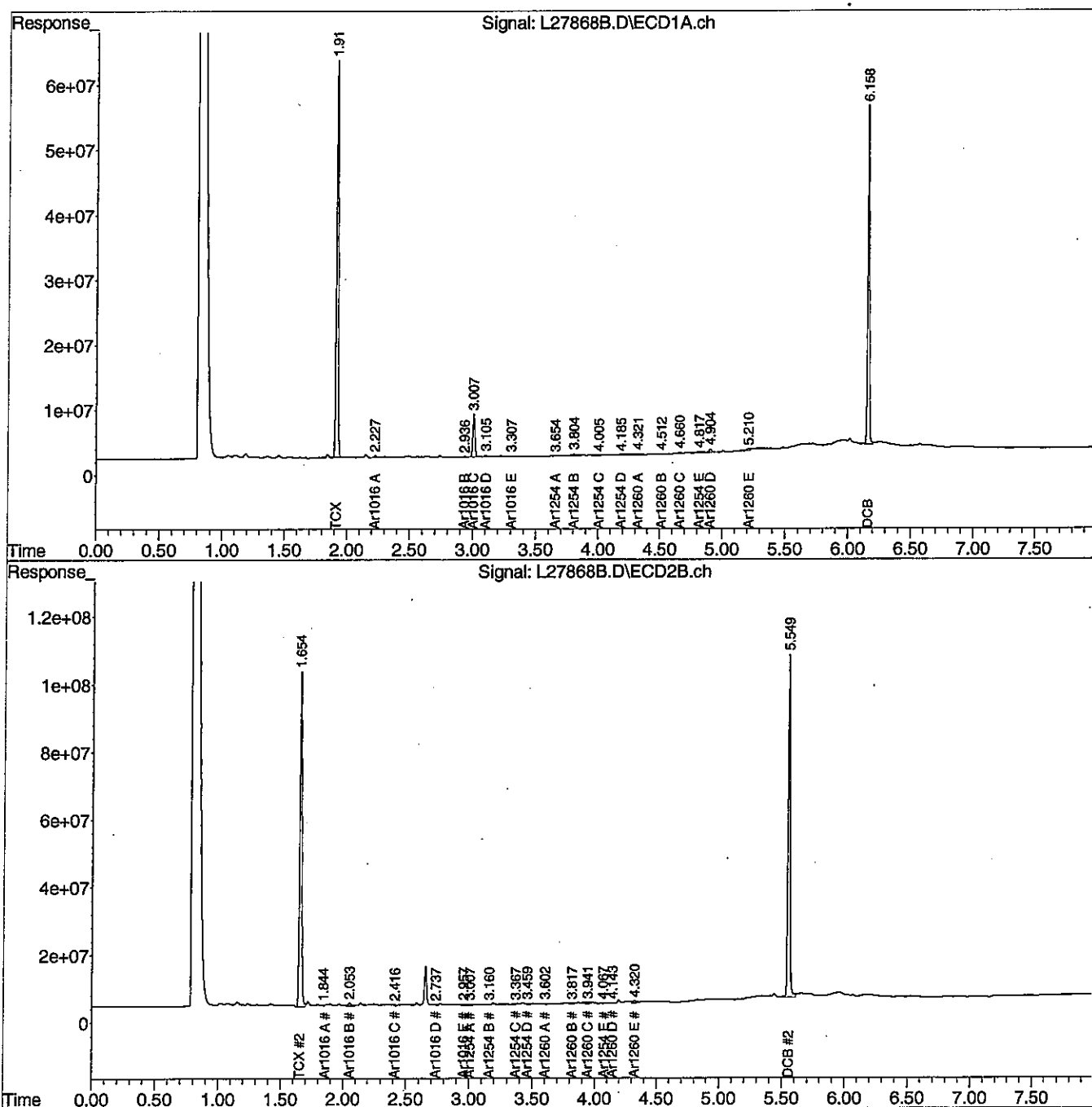
**COMMENTS:** Results are expressed on a dry weight basis.



Data Path : C:\msdchem\1\DATA\122011-L\  
Data File : L27868B.D  
Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch  
Acq On : 20 Dec 2011 4:58 pm  
Operator : JK  
Sample : B121911PSOX,RR,,A/C  
Misc : SOIL  
ALS Vial : 7 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
Integration File signal 2: autoint2.e  
Quant Time: Dec 21 12:12:54 2011  
Quant Method : C:\msdchem\1\METHODS\PCB111711.M  
Quant Title : SW-846 METHOD 8082 Aroclor 1016/1260/1254  
QLast Update : Tue Dec 20 15:46:30 2011  
Response via : Initial Calibration  
Integrator: ChemStation

Volume Inj. : 2 uL  
Signal #1 Phase : STX-CLPPesticides Signal #2 Phase: STX-CLPPesticides  
Signal #1 Info : 30 m x 0.25mm x 0 Signal #2 Info : 30 m x 0.25mm x 0.25 um





Ms. Amy Wallace  
Woodard & Curran  
41 Hutchins Drive  
Portland ME 04102

December 21, 2011

**SAMPLE DATA**
**CLIENT SAMPLE ID**
**Project Name:** Peabody Terrace  
**Project Number:** 210980  
**Field Sample ID:** PTZ-CBC-N-2008

**Lab Sample ID:** 71823-1  
**Matrix:** Solid  
**Percent Solid:** 99  
**Dilution Factor:** 1.0  
**Collection Date:** 12/16/11  
**Lab Receipt Date:** 12/16/11  
**Extraction Date:** 12/19/11  
**Analysis Date:** 12/20/11

**PCB ANALYTICAL RESULTS**

COMPOUND	Quantitation Limit $\mu\text{g/kg}$	Results $\mu\text{g/kg}$
PCB-1016	33	U
PCB-1221	33	U
PCB-1232	33	U
PCB-1242	33	U
PCB-1248	33	U
PCB-1254	33	52
PCB-1260	33	39
PCB-1262	33	U
PCB-1268	33	U
<b>Surrogate Standard Recovery</b>		
2,4,5,6-Tetrachloro-m-xylene	82	%
Decachlorobiphenyl	85	%
U=Undetected J=Estimated E=Exceeds Calibration Range B=Detected in Blank		

**METHODOLOGY:** Sample analysis conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 8082.  
Sample preparation conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 3540C.  
Sample cleanup was conducted according to SW-846 Method 3665A.

**COMMENTS:** Results are expressed on a dry weight basis.



PCB  
COLUMN RELATIVE PERCENT DIFFERENCE

Instrument ID: L

SDG: 71823

GC Column #1: STX-CLPesticides I

Sample: 71823-1,,A/C

Column ID: 0.25 mm

Data File: L27882.D

GC Column #2: STX-CLPesticides II

Dilution Factor: 1.0

Column ID: 0.25 mm

COMPOUND	Column #1	Column #2	RPD		#
	SAMPLE RESULT (ug/kg)	SAMPLE RESULT (ug/kg)			
PCB 1260	36	39	7.8		
PCB 1254	42	52	21.8		

# Column to be used to flag RPD values greater than QC limit of 40%

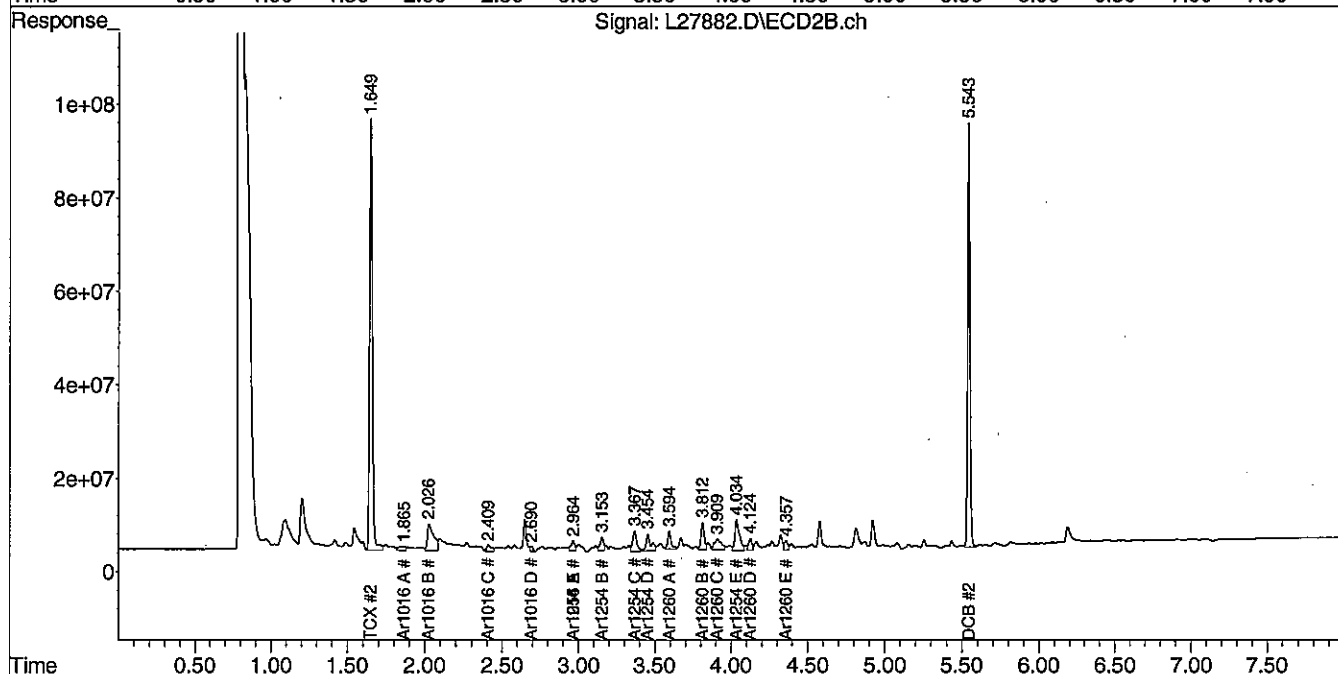
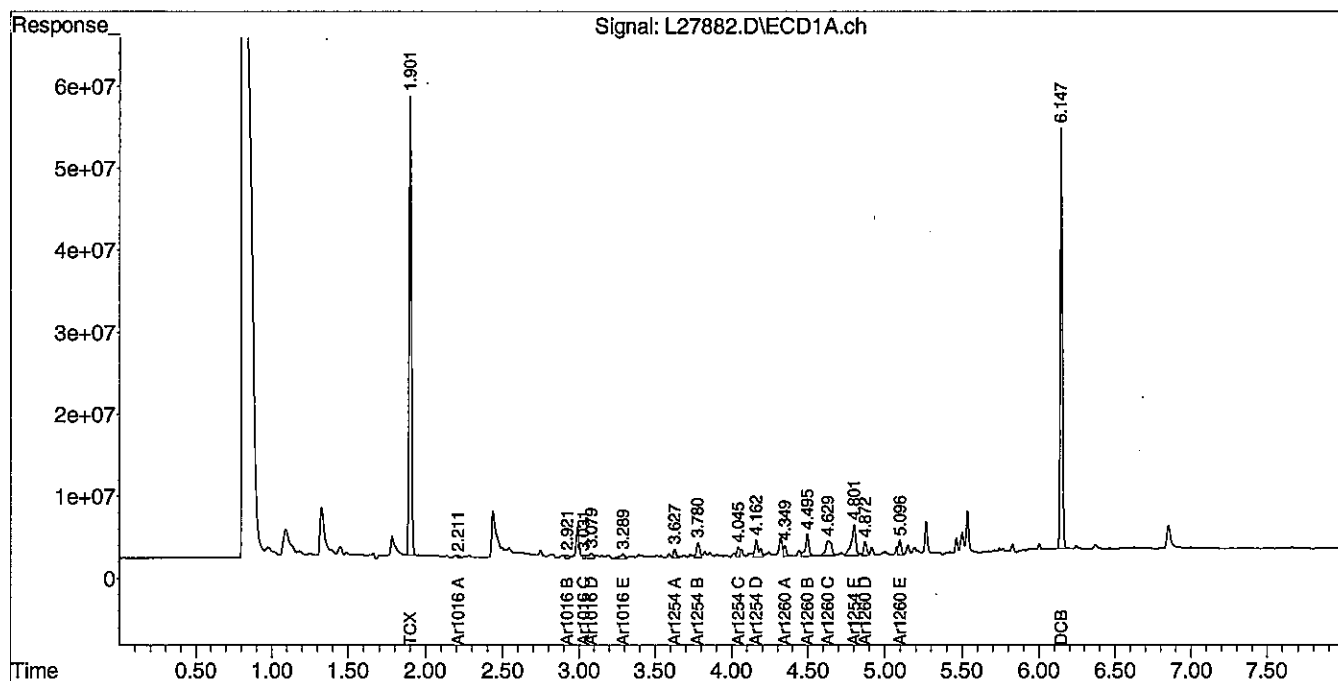
\* Values outside QC limits

Comments: \_\_\_\_\_

Data Path : C:\msdchem\1\DATA\122011-L\  
Data File : L27882.D  
Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch  
Acq On : 20 Dec 2011 7:27 pm  
Operator : JK  
Sample : 71823-1,,A/C  
Misc : SOIL  
ALS Vial : 21 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
Integration File signal 2: autoint2.e  
Quant Time: Dec 21 14:33:53 2011  
Quant Method : C:\msdchem\1\METHODS\PCB111711.M  
Quant Title : SW-846 METHOD 8082 Aroclor 1016/1260/1254  
QLast Update : Mon Dec 05 10:16:06 2011  
Response via : Initial Calibration  
Integrator: ChemStation

Volume Inj. : 2 uL  
Signal #1 Phase : STX-CLPPesticides Signal #2 Phase: STX-CLPPesticides  
Signal #1 Info : 30 m x 0.25mm x 0.25 um Signal #2 Info : 30 m x 0.25mm x 0.25 um



[illegible]

Ms. Amy Wallace  
Woodard & Curran  
41 Hutchins Drive  
Portland ME 04102

December 21, 2011

**SAMPLE DATA**

**CLIENT SAMPLE ID**  
**Project Name:** Peabody Terrace  
**Project Number:** 210980  
**Field Sample ID:** PTD-CBC-S-2007

**Lab Sample ID:** 71823-2  
**Matrix:** Solid  
**Percent Solid:** 99  
**Dilution Factor:** 1.0  
**Collection Date:** 12/16/11  
**Lab Receipt Date:** 12/16/11  
**Extraction Date:** 12/19/11  
**Analysis Date:** 12/20/11

**PCB ANALYTICAL RESULTS**

COMPOUND	Quantitation Limit µg/kg	Results µg/kg
PCB-1016	33	U
PCB-1221	33	U
PCB-1232	33	U
PCB-1242	33	U
PCB-1248	33	U
PCB-1254	33	158
PCB-1260	33	130
PCB-1262	33	U
PCB-1268	33	U

**Surrogate Standard Recovery**

2,4,5,6-Tetrachloro-m-xylene 84 %  
Decachlorobiphenyl 81 %

U=Undetected J=Estimated E=Exceeds Calibration Range B=Detected in Blank

**METHODOLOGY:** Sample analysis conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 8082.  
Sample preparation conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 3540C.  
Sample cleanup was conducted according to SW-846 Method 3665A.

**COMMENTS:** Results are expressed on a dry weight basis.

PCB  
COLUMN RELATIVE PERCENT DIFFERENCE

Instrument ID: L

SDG: 71823

GC Column #1: STX-CLPesticides I

Sample: 71823-2,,A/C

Column ID: 0.25 mm

Data File: L27883.D

GC Column #2: STX-CLPesticides II

Dilution Factor: 1.0

Column ID: 0.25 mm

COMPOUND	Column #1	Column #2	RPD		#
	SAMPLE RESULT (ug/kg)	SAMPLE RESULT (ug/kg)			
PCB 1260	130	121	7.3		
PCB 1254	158	144	9.5		

# Column to be used to flag RPD values greater than QC limit of 40%

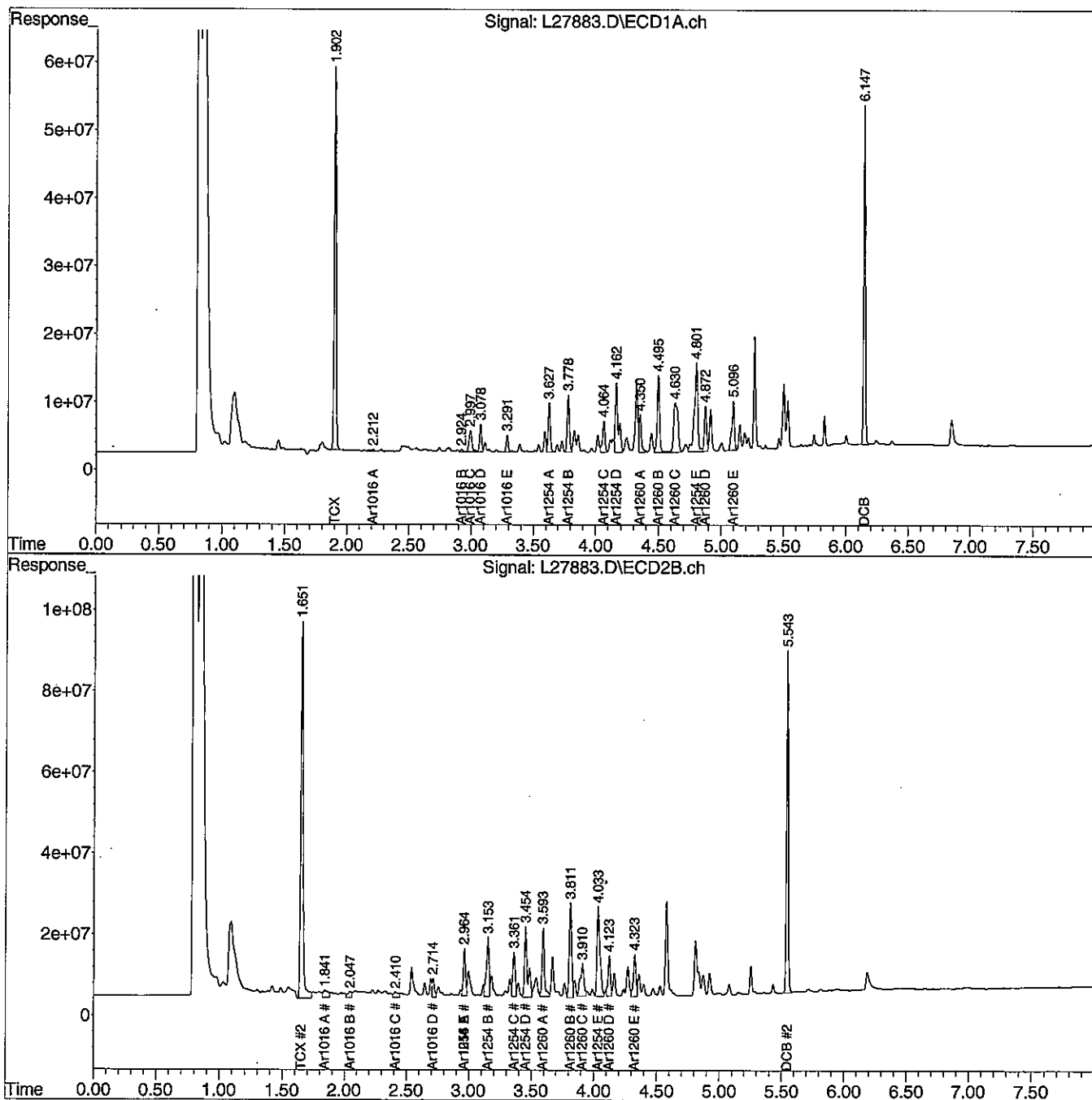
\* Values outside QC limits

Comments: \_\_\_\_\_

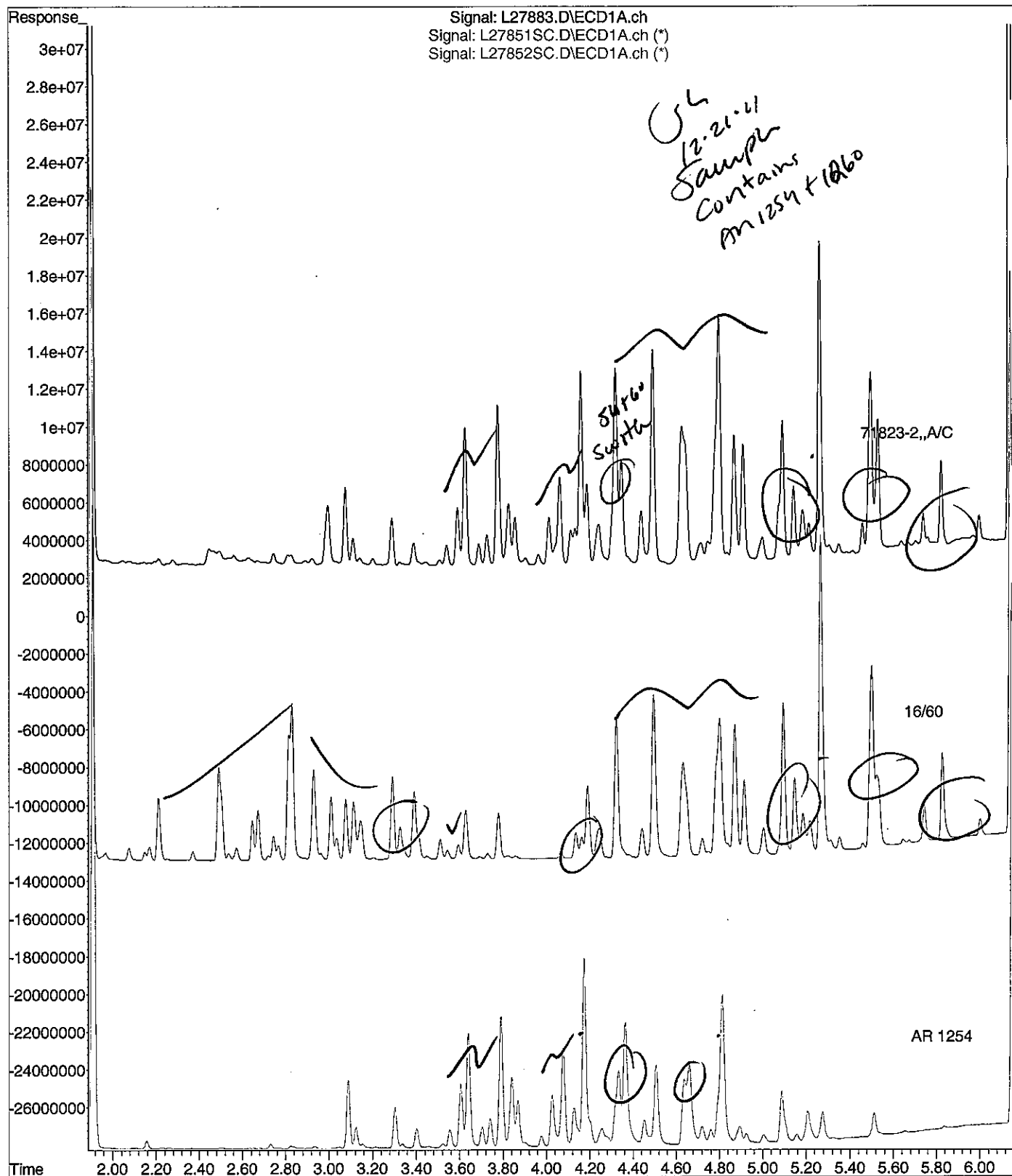
Data Path : C:\msdchem\1\DATA\122011-L\  
Data File : L27883.D  
Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch  
Acq On : 20 Dec 2011 7:37 pm  
Operator : JK  
Sample : 71823-2,,A/C  
Misc : SOIL  
ALS Vial : 22 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
Integration File signal 2: autoint2.e  
Quant Time: Dec 21 14:36:13 2011  
Quant Method : C:\msdchem\1\METHODS\PCB111711.M  
Quant Title : SW-846 METHOD 8082 Aroclor 1016/1260/1254  
QLast Update : Mon Dec 05 10:16:06 2011  
Response via : Initial Calibration  
Integrator: ChemStation

Volume Inj. : 2 uL  
Signal #1 Phase : STX-CLPPesticides Signal #2 Phase: STX-CLPPesticides  
Signal #1 Info : 30 m x 0.25mm x 0.25 um Signal #2 Info : 30 m x 0.25mm x 0.25 um



File :C:\msdchem\1\DATA\122011-L\L27883.D  
Operator : JK  
Acquired : 20 Dec 2011 7:37 pm using AcqMethod PCB.M  
Instrument : Inst L  
Sample Name: 71823-2,,A/C  
Misc Info : SOIL  
Vial Number: 22





PCB  
QC FORMS





PCB SOIL  
LABORATORY CONTROL SAMPLE/DUPLICATE  
PERCENT RECOVERY

Instrument ID: L

GC Column #1: STX-CLPesticides I

Column ID: 0.25 mm

GC Column #2: STX-CLPesticides II

Column ID: 0.25 mm

SDG: 71823

Non-spiked sample: B121911PSOX,,A/C

Spike: L121911PSOX,,A/C

Spike duplicate: LD121911PSOX,,A/C

COMPOUND	LCS SPIKE	LCSD SPIKE	LOWER	UPPER	RPD	NON-SPIKE	SPIKE	SPIKE	#	SPIKE DUP	SPIKE DUP	#	RPD	#
	ADDED (ug/kg)	ADDED (ug/kg)	LIMIT	LIMIT	LIMIT	RESULT (ug/kg)	RESULT (ug/kg)	% REC		RESULT (ug/kg)	% REC			
PCB 1016	200	200	65	140	30	0	188	94		203	101		7.7	
PCB 1260	200	200	60	130	30	0	166	83		174	87		5.1	
PCB 1016 #2	200	200	65	140	30	0	175	87		177	88		1.0	
PCB 1260 #2	200	200	60	130	30	0	143	71		152	76		6.0	

# Column to be used to flag recovery and RPD values outside of QC limits

\* Values outside QC limits

LCS/LCSD spike added values have been weight adjusted.

Non-spike result of "0" used in place of "U" to allow calculation of spike recovery.

Comments: \_\_\_\_\_  
\_\_\_\_\_

## CHAIN OF CUSTODIES

<b>analytical environmental laboratory LLC</b> 195 Commerce Way Suite E Portsmouth, NH 03801 Phone (603) 436-5111 Fax (603) 430-2151		For Analytcs Use Only Rev. 4/03/28/08	
Project#: 210980 Company: Woodward & Curran Contact: Amy Wallace Address: 41 Hutchins Drive Portland Maine		Samples were: 1) Shipped or hand-delivered 2) Temp blank °C 1.3 °C 3) Received in good condition Y or N 4) pH checked by: NA 5) Labels checked by: 12/16/11	
Matrix Key: C = Concrete WP = Wipe WW = Wastewater SW = Surface Water GW = Groundwater DW = Drinking Water S = Soil/Sludge O = Oil E = Extract X = Other		Container Key P = plastic G = glass	
Preservation Unpres °C HNO <sub>3</sub> H <sub>2</sub> SO <sub>4</sub> TOL Methanol Other		pH Analytics Sample #	
Station Identification PTZ-CBC-N-2008 PTD-CBC-S-2007		Date: 12/16/11 Time: 11:05 Received By: [Signature]	
Sample Date 12/16/11 12/16/11		Date: 12/16/11 Time: 11:05 Received By: [Signature]	
Sample Time 0920 0915		Date: 12/16/11 Time: 11:05 Received By: [Signature]	
Analysis PCBs PCBs		Date: 12/16/11 Time: 11:05 Received By: [Signature]	
Comments / Instructions: Email Results to: jwallace@woodwardcurran.com A Wallace J Russell		Project Requirements: Report Type: <input checked="" type="checkbox"/> MCP <input type="checkbox"/> CTCT <input type="checkbox"/> DOD <input type="checkbox"/> Standard State: <input checked="" type="checkbox"/> Level II <input type="checkbox"/> Level III <input type="checkbox"/> Level IV State Standard: (eg. S-1 or GW-1) EDD Required: Y* N Type: 6/5 Key	
Turnaround Request Priority <input checked="" type="checkbox"/> Due Date <input type="checkbox"/> 5 day		Other: <input type="checkbox"/> Fee may apply Page 1 of 1	

ANALYTICS SAMPLE RECEIPT CHECKLIST

AEL LAB#: 71823  
 CLIENT: WVWANO  
 PROJECT: Peasody Terrace

COOLER NUMBER: 84 5121611  
 NUMBER OF COOLERS: 1  
 DATE RECEIVED: 12-16-11

**A: PRELIMINARY EXAMINATION:**

DATE COOLER OPENED: 12-16-11

1. Cooler received by (initials): [Signature]  
 2. Circle one: Hand delivered (if so, skip 3)  
 3. Did cooler come with a shipping slip?

Date Received: \_\_\_\_\_

Shipped \_\_\_\_\_  
 Y NA

3a. Enter carrier name and airbill number here: \_\_\_\_\_

4. Were custody seals on the outside of cooler?  
 How many & where: \_\_\_\_\_ Seal Date: \_\_\_\_\_ Seal Name: \_\_\_\_\_  
 Y NA

5. Did the custody seals arrive unbroken and intact upon arrival?  
 Y NA

6. COC: \_\_\_\_\_

7. Were Custody papers filled out properly (ink, signed, etc)? Y N

8. Were custody papers sealed in a plastic bag? Y N

9. Did you sign the COC in the appropriate place? Y N

10. Was the project identifiable from the COC papers? Y N

11. Was enough ice used to chill the cooler? Y N Temp. of cooler: 13°C

**B. Log-In:** Date samples were logged in: 12/16/11

By: MG

12. Type of packing in cooler (bubble wrap, popcorn) Y N  
 13. Were all bottles sealed in separate plastic bags? Y N  
 14. Did all bottles arrive unbroken and were labels in good condition? Y N  
 15. Were all bottle labels complete (ID, Date, time, etc.) Y N  
 16. Did all bottle labels agree with custody papers? Y N  
 17. Were the correct containers used for the tests indicated: Y N  
 18. Were samples received at the correct pH? Y NA  
 19. Was sufficient amount of sample sent for the tests indicated? Y N  
 20. Were all samples submitted within holding time? Y N  
 21. Were bubbles absent in VOA samples? Y NA

If NO, List Sample ID's and Lab #s: \_\_\_\_\_

22. Laboratory labeling verified by (initials): 12/16/11 [Signature] Date: \_\_\_\_\_

December 22, 2011

Ms. Amy Wallace  
Woodard & Curran  
41 Hutchins Drive  
Portland ME 04102

**RE: Analytical Results Case Narrative  
Analytics # 71835  
Peabody Terrace Project No: 210980**

Dear Ms. Wallace;

Enclosed please find the analytical results for samples submitted for the above-mentioned project. The attached Cover Page lists the sample IDs, Lab tracking numbers and collection dates for the samples included in this deliverable.

Samples were analyzed for Polychlorinated Biphenyls (PCBs) by EPA Method 8082.

Unless otherwise noted in the Non-conformance Summary listed below, all of the quality control (QC) criteria including initial calibration, calibration verification, surrogate recovery, holding time and method accuracy/precision for these analyses were within acceptable limits.

This Level II data package has been assembled in the following order:

- Case Narrative/Non-Conformance Summary
- Sample Log Sheet - Cover Page
- PCB Form 1 Data Sheet for Samples and Blanks
- Chromatograms
- PCB Form 10 Confirmation Results
- PCB Form 3 MS/MSD (LCS) Recoveries
- Chain of Custody (COC) Forms



## QC NON-CONFORMANCE SUMMARY

**Sample Receipt:**

No exceptions.

**PCBs by EPA Method 8082:**

No results were reported below the quantitation limit.

If you have any questions on these results, please do not hesitate to contact me.

Sincerely,  
ANALYTICS Environmental Laboratory, LLC

A handwritten signature in black ink, appearing to read 'S. L. Knollmeyer', with a long horizontal flourish extending to the right.

Stephen L. Knollmeyer  
Laboratory Director

Ms. Amy Wallace  
Woodard & Curran  
41 Hutchins Drive  
Portland ME 04102

**Report Number: 71835**

**Revision: Rev. 0**

**Re: Peabody Terrace (Project No: 210980)**

Enclosed are the results of the analyses on your sample(s). Samples were received on 19 December 2011 and analyzed for the tests listed. Samples were received in acceptable condition, with the exceptions noted below or on the chain of custody. These results pertain to samples as received by the laboratory and for the analytical tests requested on the chain of custody. The results reported herein conform to the most current NELAC standards, where applicable, unless otherwise narrated in the body of the report. Please see individual reports for specific methodologies and references.

<u>Lab Number</u>	<u>Sample Date</u>	<u>Station Location</u>	<u>Analysis</u>	<u>Comments</u>
71835-1	12/19/11	PTZ-CBC-W-2009	EPA 8082 (PCBs only)	
71835-2	12/19/11	PTZ-CBC-W-2011	EPA 8082 (PCBs only)	
71835-3	12/19/11	PTZ-CBC-E-2010	Electronic Data Deliverable	
	12/19/11	PTZ-CBC-E-2010	EPA 8082 (PCBs only)	

**Sample Receipt Exceptions: None**

Analytics Environmental Laboratory is certified by the states of New Hampshire, Maine, Massachusetts, Connecticut, Rhode Island, Virginia, Maryland, and North Carolina, and is accredited by the Department of Defense (DOD) ELAP program. A list of actual certified parameters is available upon request.

If you have any questions on these results, please do not hesitate to contact us.

Authorized signature   
Stephen L. Knollmeyer Lab. Director

Date 12/22/2011

**This report shall not be reproduced, except in full, without the written consent of Analytics Environmental Laboratory, LLC.**

### MassDEP Analytical Protocol Certification Form

Laboratory Name: Analytics Environmental Laboratory, LLC

Project #: 71835

Project Location: Peabody Terrace

RTN:

This Form provides certifications for the following data set. Laboratory Sample ID Number(s):

71835-1, 71835-2, 71835-3

Matrices: ☐ Groundwater/Surface Water ☐ Soil/Sediment ☐ Drinking Water ☐ Air ☒ Other

**CAM Protocol** (check all that apply below):

8260 VOC CAM II A <input type="checkbox"/>	7470/7471 Hg CAM III B <input type="checkbox"/>	MassDEP VPH CAM IV A <input type="checkbox"/>	8081 Pesticides CAM V B <input type="checkbox"/>	7196 Hex Cr CAM VI B <input type="checkbox"/>	MassDEP APH CAM IX A <input type="checkbox"/>
8270 SVOC CAM II B <input type="checkbox"/>	7010 Metals CAM III C <input type="checkbox"/>	MassDEP EPH CAM IV B <input type="checkbox"/>	8151 Herbicides CAM V C <input type="checkbox"/>	8330 Explosives CAM VIII A <input type="checkbox"/>	TO-15 VOC CAM IX B <input type="checkbox"/>
6010 Metals CAM III A <input type="checkbox"/>	6020 Metals CAM III D <input type="checkbox"/>	8082 PCB CAM V A <input checked="" type="checkbox"/>	9014 Total Cyanide/PAC CAM VI A <input type="checkbox"/>	6860 Perchlorate CAM VIII B <input type="checkbox"/>	

*Affirmative Responses to Questions A through F are required for "Presumptive Certainty" status*

<b>A</b>	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
<b>B</b>	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
<b>C</b>	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
<b>D</b>	Does the laboratory report comply with all reporting requirements specified in CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data"?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
<b>E</b>	a. VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? (Refer to individual method(s) for a list of significant modifications). b. APH and TO-15 Methods only: Was the complete analyte list reported for each method?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Yes <input type="checkbox"/> No
<b>F</b>	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No

*Responses to Questions G, H and I below are required for "Presumptive Certainty" status*


<b>G</b>	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <sup>1</sup>
----------	---	--

**Data User Note:** Data that achieve "Presumptive Certainty" status may not necessarily meet the data usability and representativeness requirements described in 310 CMR 40.1056 (2)(k) and WSC-07-350.

<b>H</b>	Were ALL QC performance standards specified in the CAM protocol(s) achieved?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <sup>1</sup>
<b>I</b>	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <sup>1</sup>

<sup>1</sup> All negative responses must be addressed in an attached laboratory narrative.

*I, the undersigned, attest under the pains and penalties of perjury that, based upon my personal inquiry of those responsible for obtaining the information, the material contained in this analytical report is, to the best of my knowledge and belief, accurate and complete.*

Signature: 

Position: Laboratory Director

Printed Name: Stephen L. Knollmeyer

Date: December 22, 2011

### Surrogate Compound Limits

	Matrix: Units:	Aqueous % Recovery	Solid % Recovery	Method
<b>Volatile Organic Compounds - Drinking Water</b>				
1,4-Difluorobenzene		70-130		EPA 524.2
Bromofluorobenzene		70-130		
1,2-Dichlorobenzene-d4		70-130		
<b>Volatile Organic Compounds</b>				
1,2-Dichloroethane-d4		70-120	70-120	EPA 624/8260B
Toluene-d8		85-120	85-120	
Bromofluorobenzene		75-120	75-120	
<b>Semi-Volatile Organic Compounds</b>				
2-Fluorophenol		20-110	35-105	EPA 625/8270C
d5-Phenol		15-110	40-100	
d5-nitrobenzene		40-110	35-100	
2-Fluorobiphenyl		50-110	45-105	
2,4,6-Tribromophenol		40-110	40-125	
d14-p-terphenyl		50-130	30-125	
<b>PAH's by SIM</b>				
d5-nitrobenzene		21-110	35-110	EPA 8270C
2-Fluorobiphenyl		36-121	45-105	
d14-p-terphenyl		33-141	30-125	
<b>Pesticides and PCBs</b>				
2,4,5,6-Tetrachloro-m-xylene (TCX)		46-122	40-130	EPA 608/8082
Decachlorobiphenyl (DCB)		40-135	40-130	
<b>Herbicides</b>				
Dichloroacetic acid (DCAA)		30-150	30-150	
<b>Gasoline Range Organics/TPH Gasoline</b>				
Trifluorotoluene TFT (FID)		60-140	60-140	MEDEP 4217/EPA 8015
Bromofluorobenzene (BFB) (FID)		60-140	60-140	
Trifluorotoluene TFT (PID)		60-140	60-140	
Bromofluorobenzene (BFB) (PID)		60-140	60-140	
<b>Diesel Range Organics/TPH Diesel</b>				
m-terphenyl		60-140	60-140	MEDEP 4125/EPA 8015/CT ETPH
<b>Volatile Petroleum Hydrocarbons</b>				
2,5-Dibromotoluene (PID)		70-130	70-130	MADEP VPH May 2004 Rev1.1
2,5-Dibromotoluene (FID)		70-130	70-130	
<b>Extracatable Petroleum Hydrocarbons</b>				
1-chloro-octadecane (aliphatic)		40-140	40-140	MADEP EPH May 2004 Rev1.1
o-Terphenyl (aromatic)		40-140	40-140	
2-Fluorobiphenyl (Fractionation)		40-140	40-140	
2-Bromonaphthalene (fractionation)		40-140	40-140	

## PCB DATA SUMMARIES

Ms. Amy Wallace  
Woodard & Curran  
41 Hutchins Drive  
Portland ME 04102

December 22, 2011

**SAMPLE DATA**

**CLIENT SAMPLE ID**

**Project Name:** Peabody Terrace  
**Project Number:** 210980  
**Field Sample ID:** Lab QC

**Lab Sample ID:** B121911PSOX  
**Matrix:** Soil  
**Percent Solid:** 100  
**Dilution Factor:** 1.0  
**Collection Date:**  
**Lab Receipt Date:**  
**Extraction Date:** 12/19/11  
**Analysis Date:** 12/20/11

**PCB ANALYTICAL RESULTS**

COMPOUND	Quantitation Limit µg/kg	Results µg/kg
PCB-1016	33	U
PCB-1221	33	U
PCB-1232	33	U
PCB-1242	33	U
PCB-1248	33	U
PCB-1254	33	U
PCB-1260	33	U
PCB-1262	33	U
PCB-1268	33	U
<b><u>Surrogate Standard Recovery</u></b>		
2,4,5,6-Tetrachloro-m-xylene	87	%
Decachlorobiphenyl	82	%
U=Undetected J=Estimated E=Exceeds Calibration Range B=Detected in Blank		

**METHODOLOGY:** Sample analysis conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 8082.  
Sample preparation conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 3540C.  
Sample cleanup was conducted according to SW-846 Method 3665A.

**COMMENTS:** Results are expressed on a dry weight basis.

PCB EXT Report

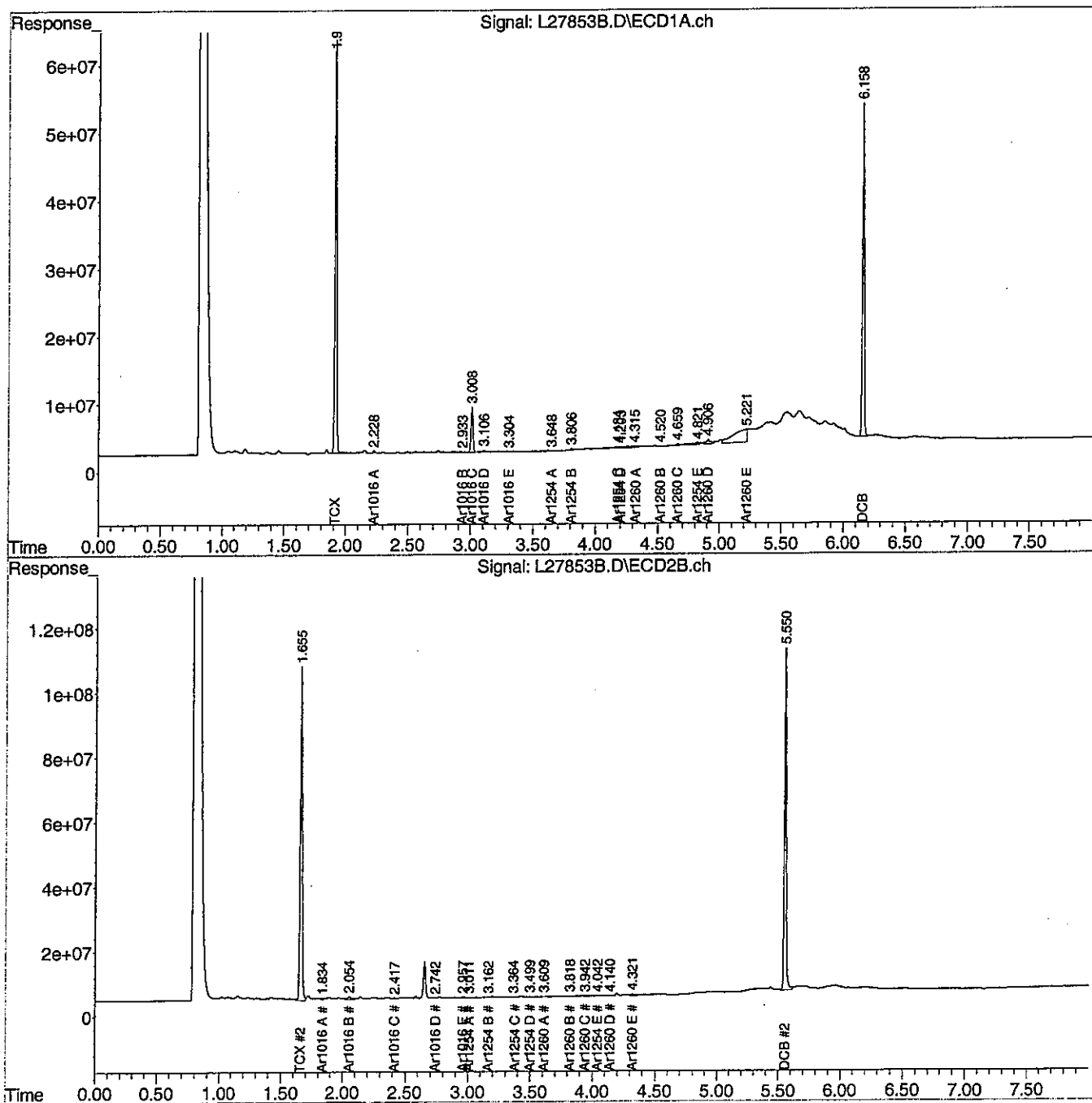
Authorized signature



Data Path : C:\msdchem\1\DATA\122011-L\  
Data File : L27853B.D  
Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch  
Acq On : 20 Dec 2011 12:13 pm  
Operator : JK  
Sample : B121911PSOX,,A/C  
Misc : SOIL  
ALS Vial : 6 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
Integration File signal 2: autoint2.e  
Quant Time: Dec 20 15:44:52 2011  
Quant Method : C:\msdchem\1\METHODS\PCB111711.M  
Quant Title : SW-846 METHOD 8082 Aroclor 1016/1260/1254  
QLast Update : Mon Dec 05 10:16:06 2011  
Response via : Initial Calibration  
Integrator: ChemStation

Volume Inj. : 2 uL  
Signal #1 Phase : STX-CLPPesticides Signal #2 Phase: STX-CLPPesticides  
Signal #1 Info : 30 m x 0.25mm x 0 Signal #2 Info : 30 m x 0.25mm x 0.25 um



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December 21, 2011

**SAMPLE DATA**

**CLIENT SAMPLE ID**

---

**Project Name:** Peabody Terrace  
**Project Number:** 210980  
**Field Sample ID:** Lab QC

**Lab Sample ID:** B121911PSOX RR  
**Matrix:** Soil  
**Percent Solid:** 100  
**Dilution Factor:** 1.0  
**Collection Date:**  
**Lab Receipt Date:**  
**Extraction Date:** 12/19/11  
**Analysis Date:** 12/20/11

**PCB ANALYTICAL RESULTS**

COMPOUND	Quantitation Limit $\mu\text{g/kg}$	Results $\mu\text{g/kg}$
PCB-1016	33	U
PCB-1221	33	U
PCB-1232	33	U
PCB-1242	33	U
PCB-1248	33	U
PCB-1254	33	U
PCB-1260	33	U
PCB-1262	33	U
PCB-1268	33	U
<b><u>Surrogate Standard Recovery</u></b>		
2,4,5,6-Tetrachloro-m-xylene	87	%
Decachlorobiphenyl	86	%
U=Undetected J=Estimated E=Exceeds Calibration Range B=Detected in Blank		

**METHODOLOGY:** Sample analysis conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 8082.  
Sample preparation conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 3540C.  
Sample cleanup was conducted according to SW-846 Method 3665A.

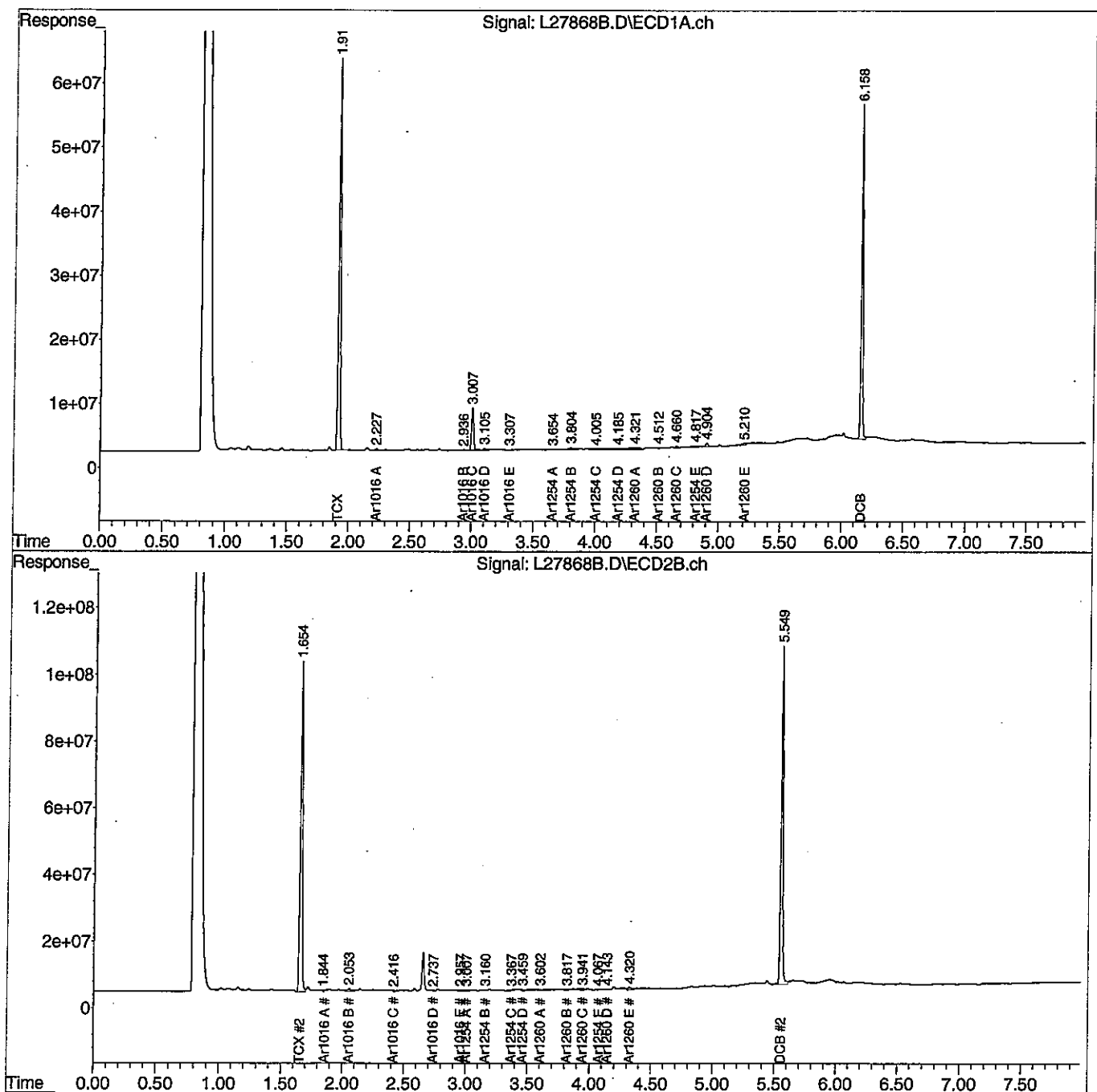
**COMMENTS:** Results are expressed on a dry weight basis.



Data Path : C:\msdchem\1\DATA\122011-L\  
Data File : L27868B.D  
Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch  
Acq On : 20 Dec 2011 4:58 pm  
Operator : JK  
Sample : B121911PSOX,RR,,A/C  
Misc : SOIL  
ALS Vial : 7 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
Integration File signal 2: autoint2.e  
Quant Time: Dec 21 12:12:54 2011  
Quant Method : C:\msdchem\1\METHODS\PCB111711.M  
Quant Title : SW-846 METHOD 8082 Aroclor 1016/1260/1254  
QLast Update : Tue Dec 20 15:46:30 2011  
Response via : Initial Calibration  
Integrator: ChemStation

Volume Inj. : 2 uL  
Signal #1 Phase : STX-CLPPesticides Signal #2 Phase: STX-CLPPesticides  
Signal #1 Info : 30 m x 0.25mm x 0.25 um Signal #2 Info : 30 m x 0.25mm x 0.25 um



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December 21, 2011

**SAMPLE DATA**
**CLIENT SAMPLE ID**
**Project Name:** Peabody Terrace  
**Project Number:** 210980  
**Field Sample ID:** PTZ-CBC-W-2009

**Lab Sample ID:** 71835-1  
**Matrix:** Solid  
**Percent Solid:** 99  
**Dilution Factor:** 1.9  
**Collection Date:** 12/19/11  
**Lab Receipt Date:** 12/19/11  
**Extraction Date:** 12/19/11  
**Analysis Date:** 12/20/11

**PCB ANALYTICAL RESULTS**

COMPOUND	Quantitation Limit $\mu\text{g/kg}$	Results $\mu\text{g/kg}$
PCB-1016	63	U
PCB-1221	63	U
PCB-1232	63	U
PCB-1242	63	U
PCB-1248	63	U
PCB-1254	63	156
PCB-1260	63	U
PCB-1262	63	U
PCB-1268	63	U
<b>Surrogate Standard Recovery</b>		
2,4,5,6-Tetrachloro-m-xylene	82	%
Decachlorobiphenyl	87	%
U=Undetected J=Estimated E=Exceeds Calibration Range B=Detected in Blank		

**METHODOLOGY:** Sample analysis conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 8082.  
Sample preparation conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 3540C.  
Sample cleanup was conducted according to SW-846 Method 3665A.

**COMMENTS:** Results are expressed on a dry weight basis.

PCB  
COLUMN RELATIVE PERCENT DIFFERENCE

Instrument ID: L  
GC Column #1: STX-CLPesticides I  
Column ID: 0.25 mm  
GC Column #2: STX-CLPesticides II  
Column ID: 0.25 mm

SDG: 71835  
Sample: 71835-1,,A/C  
Data File: L27884.D  
Dilution Factor: 1.9

COMPOUND	Column #1	Column #2	RPD		#
	SAMPLE RESULT (ug/kg)	SAMPLE RESULT (ug/kg)			
PCB 1254	156	151	2.8		

# Column to be used to flag RPD values greater than QC limit of 40%

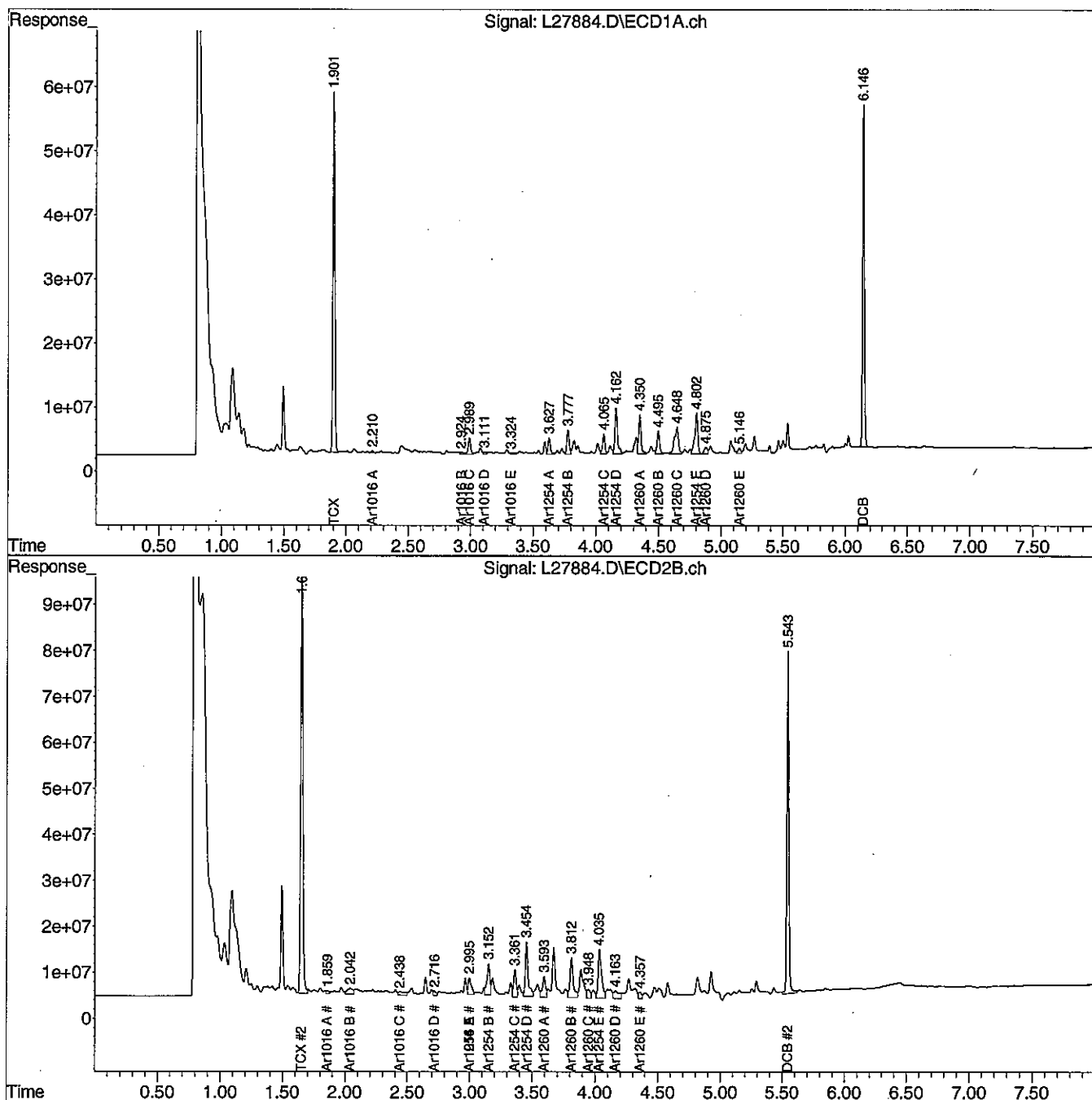
\* Values outside QC limits

Comments: \_\_\_\_\_

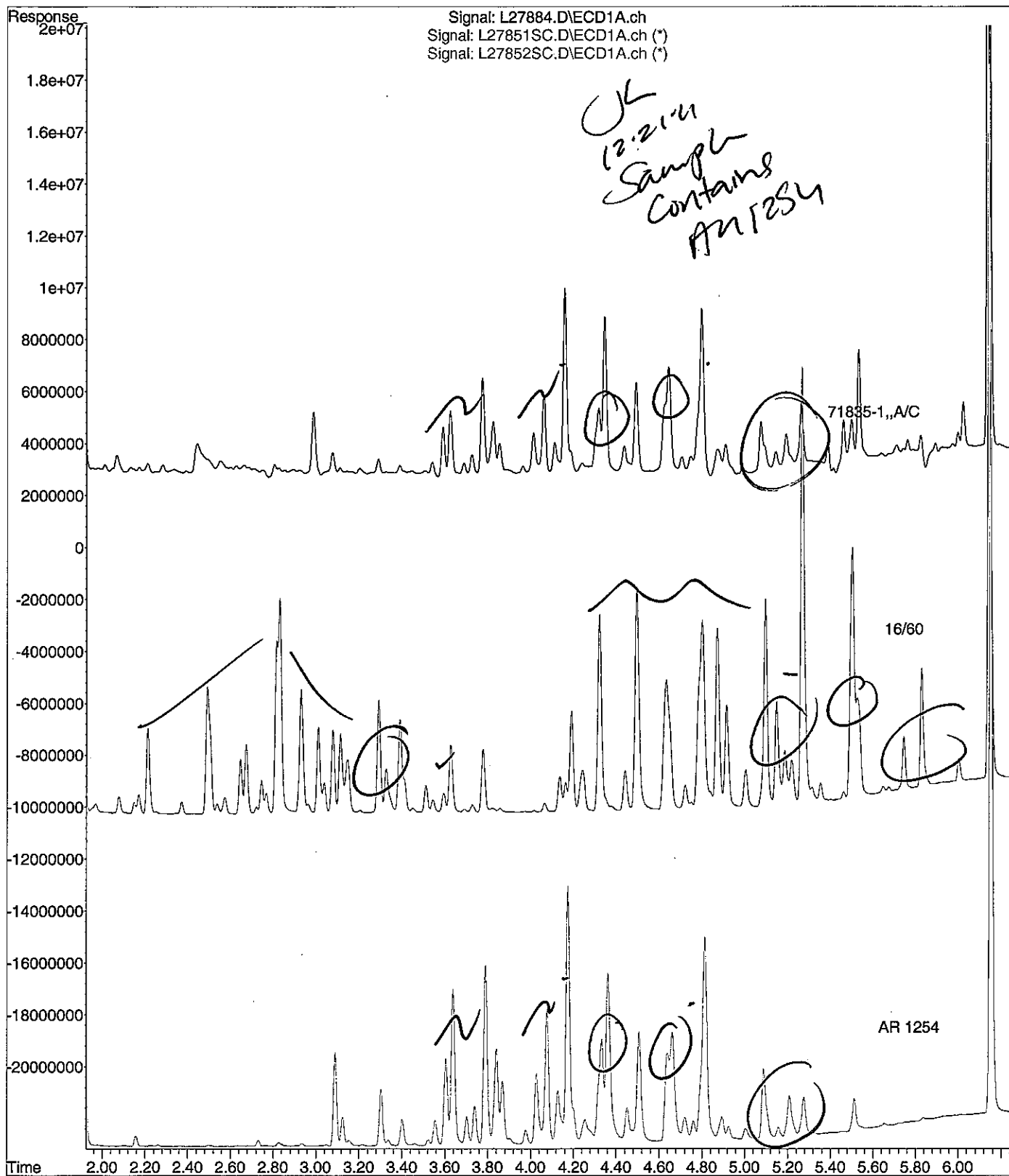
Data Path : C:\msdchem\1\DATA\122011-L\  
 Data File : L27884.D  
 Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch  
 Acq On : 20 Dec 2011 7:47 pm  
 Operator : JK  
 Sample : 71835-1,,A/C  
 Misc : SOIL  
 ALS Vial : 23 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Dec 21 14:37:51 2011  
 Quant Method : C:\msdchem\1\METHODS\PCB111711.M  
 Quant Title : SW-846 METHOD 8082 Aroclor 1016/1260/1254  
 QLast Update : Mon Dec 05 10:16:06 2011  
 Response via : Initial Calibration  
 Integrator: ChemStation

Volume Inj. : 2 uL  
 Signal #1 Phase : STX-CLPPesticides Signal #2 Phase: STX-CLPPesticides  
 Signal #1 Info : 30 m x 0.25mm x 0.25 um Signal #2 Info : 30 m x 0.25mm x 0.25 um



File :C:\msdchem\1\DATA\122011-L\L27884.D  
Operator : JK  
Acquired : 20 Dec 2011 7:47 pm using AcqMethod PCB.M  
Instrument : Inst L  
Sample Name: 71835-1,,A/C  
Misc Info : SOIL  
Vial Number: 23



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December 21, 2011

**SAMPLE DATA**
**CLIENT SAMPLE ID**

**Project Name:** Peabody Terrace  
**Project Number:** 210980  
**Field Sample ID:** PTZ-CBC-W-2011

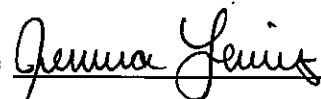
**Lab Sample ID:** 71835-2  
**Matrix:** Solid  
**Percent Solid:** 99  
**Dilution Factor:** 1.6  
**Collection Date:** 12/19/11  
**Lab Receipt Date:** 12/19/11  
**Extraction Date:** 12/19/11  
**Analysis Date:** 12/20/11

**PCB ANALYTICAL RESULTS**

COMPOUND	Quantitation Limit $\mu\text{g/kg}$	Results $\mu\text{g/kg}$
PCB-1016	53	U
PCB-1221	53	U
PCB-1232	53	U
PCB-1242	53	U
PCB-1248	53	U
PCB-1254	53	197
PCB-1260	53	U
PCB-1262	53	U
PCB-1268	53	U
<b>Surrogate Standard Recovery</b>		
2,4,5,6-Tetrachloro-m-xylene	80 %	
Decachlorobiphenyl	80 %	
U=Undetected J=Estimated E=Exceeds Calibration Range B=Detected in Blank		

**METHODOLOGY:** Sample analysis conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 8082.  
Sample preparation conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 3540C.  
Sample cleanup was conducted according to SW-846 Method 3665A.

**COMMENTS:** Results are expressed on a dry weight basis.



PCB  
COLUMN RELATIVE PERCENT DIFFERENCE

Instrument ID: L	SDG: 71835
GC Column #1: STX-CLPesticides I	Sample: 71835-2,,A/C
Column ID: 0.25 mm	Data File: L27885.D
GC Column #2: STX-CLPesticides II	Dilution Factor: 1.6
Column ID: 0.25 mm	

COMPOUND	Column #1	Column #2	RPD		#
	SAMPLE RESULT (ug/kg)	SAMPLE RESULT (ug/kg)			
PCB 1254	197	181	8.3		

# Column to be used to flag RPD values greater than QC limit of 40%

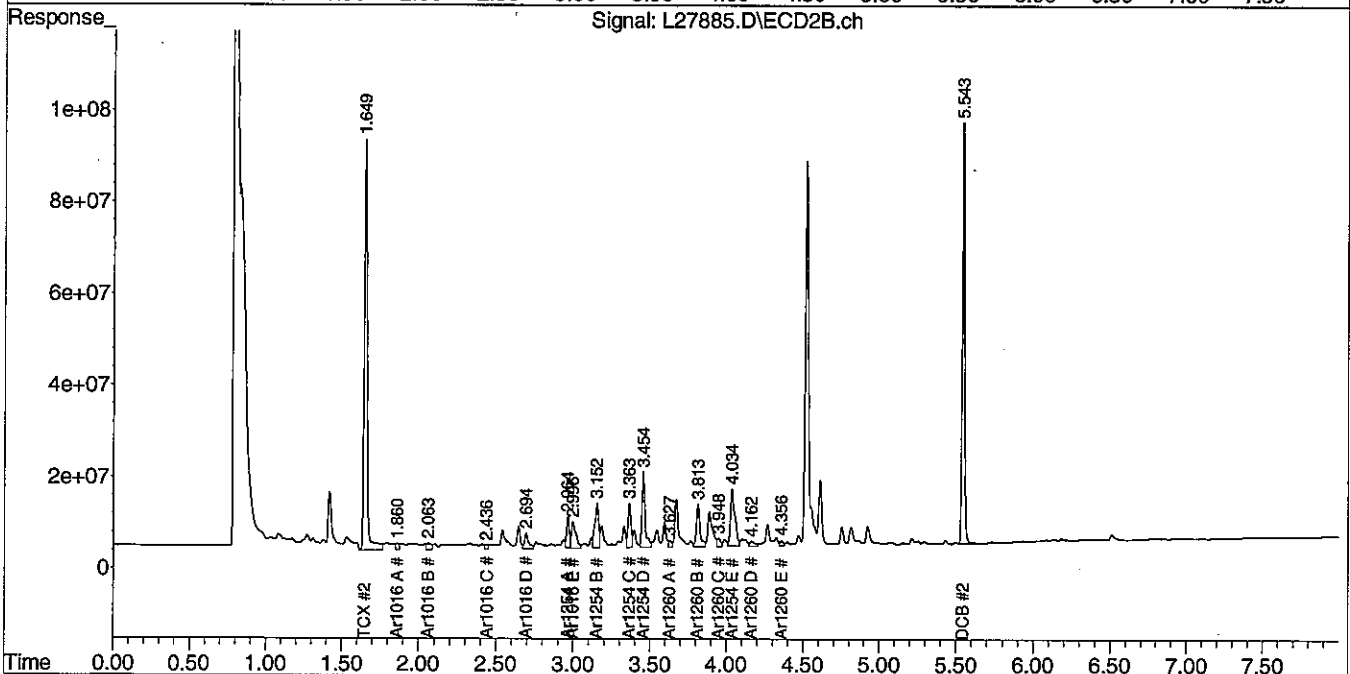
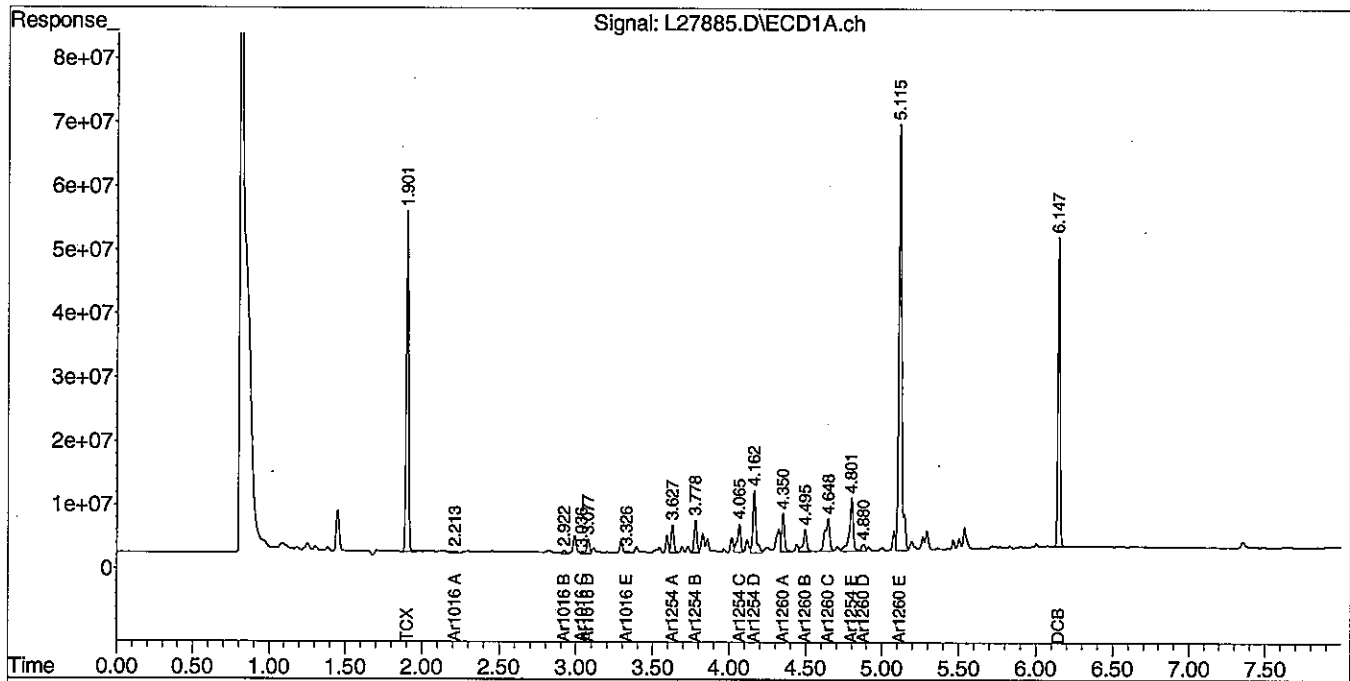
\* Values outside QC limits

Comments: \_\_\_\_\_

Data Path : C:\msdchem\1\DATA\122011-L\  
 Data File : L27885.D  
 Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch  
 Acq On : 20 Dec 2011 7:57 pm  
 Operator : JK  
 Sample : 71835-2,,A/C  
 Misc : SOIL  
 ALS Vial : 24 Sample Multiplier: 1

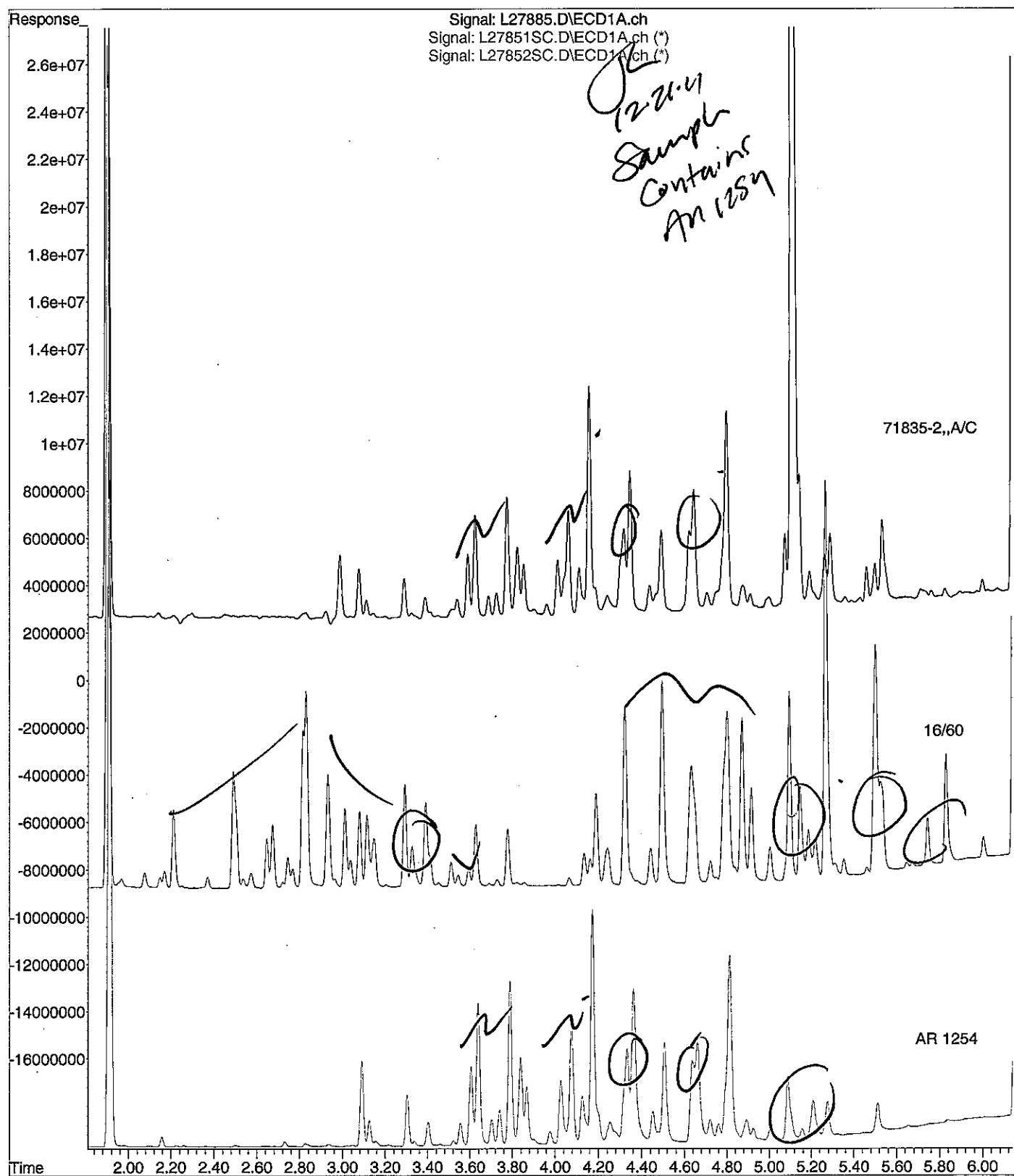
Integration File signal 1: autoint1.e  
 Integration File signal 2: autoint2.e  
 Quant Time: Dec 21 14:45:03 2011  
 Quant Method : C:\msdchem\1\METHODS\PCB111711.M  
 Quant Title : SW-846 METHOD 8082 Aroclor 1016/1260/1254  
 QLast Update : Mon Dec 05 10:16:06 2011  
 Response via : Initial Calibration  
 Integrator: ChemStation

Volume Inj. : 2 uL  
 Signal #1 Phase : STX-CLPPesticides Signal #2 Phase: STX-CLPPesticides  
 Signal #1 Info : 30 m x 0.25mm x 0 Signal #2 Info : 30 m x 0.25mm x 0.25 um





File :C:\msdchem\1\DATA\122011-L\L27885.D  
Operator : JK  
Acquired : 20 Dec 2011 7:57 pm using AcqMethod PCB.M  
Instrument : Inst L  
Sample Name: 71835-2,,A/C  
Misc Info : SOIL  
Vial Number: 24



for  
12/21/11

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Portland ME 04102

December 21, 2011

**SAMPLE DATA**

**CLIENT SAMPLE ID**  
**Project Name:** Peabody Terrace  
**Project Number:** 210980  
**Field Sample ID:** PTZ-CBC-E-2010

**Lab Sample ID:** 71835-3  
**Matrix:** Solid  
**Percent Solid:** 99  
**Dilution Factor:** 1.3  
**Collection Date:** 12/19/11  
**Lab Receipt Date:** 12/19/11  
**Extraction Date:** 12/19/11  
**Analysis Date:** 12/20/11

PCB ANALYTICAL RESULTS		
COMPOUND	Quantitation Limit $\mu\text{g/kg}$	Results $\mu\text{g/kg}$
PCB-1016	43	U
PCB-1221	43	U
PCB-1232	43	U
PCB-1242	43	U
PCB-1248	43	U
PCB-1254	43	118
PCB-1260	43	U
PCB-1262	43	U
PCB-1268	43	U
<b>Surrogate Standard Recovery</b>		
2,4,5,6-Tetrachloro-m-xylene	61	%
Decachlorobiphenyl	70	%
U=Undetected J=Estimated E=Exceeds Calibration Range B=Detected in Blank		

**METHODOLOGY:** Sample analysis conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 8082.  
Sample preparation conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 3540C.  
Sample cleanup was conducted according to SW-846 Method 3665A.

**COMMENTS:** Results are expressed on a dry weight basis.



PCB  
COLUMN RELATIVE PERCENT DIFFERENCE

Instrument ID: L	SDG: 71835
GC Column #1: STX-CLPesticides I	Sample: 71835-3,,A/C
Column ID: 0.25 mm	Data File: L27886.D
GC Column #2: STX-CLPesticides II	Dilution Factor: 1.3
Column ID: 0.25 mm	

Column #1		Column #2		
COMPOUND	SAMPLE RESULT (ug/kg)	SAMPLE RESULT (ug/kg)	RPD	#
PCB 1254	118	100	17.2	

# Column to be used to flag RPD values greater than QC limit of 40%

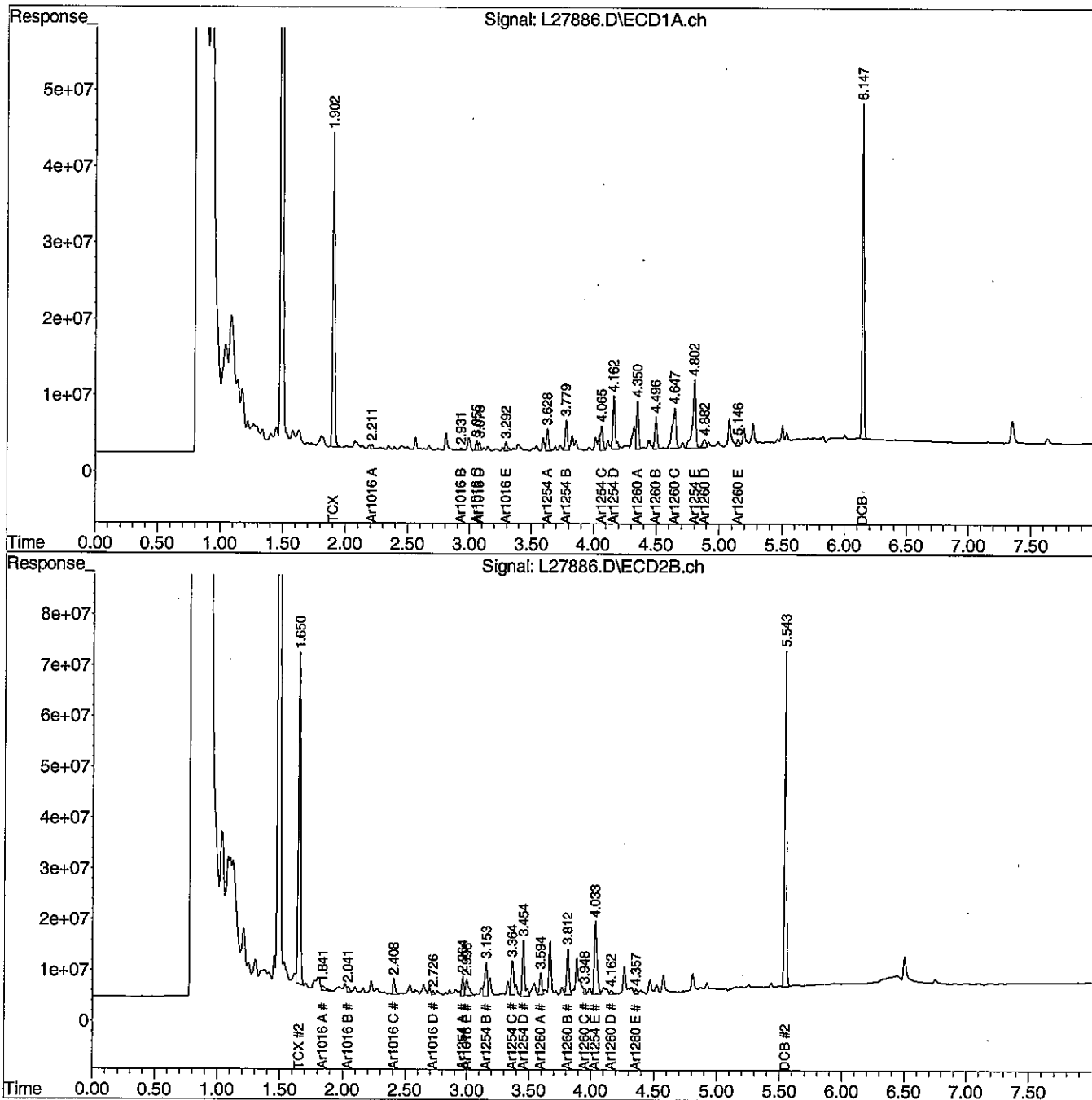
\* Values outside QC limits

Comments: \_\_\_\_\_

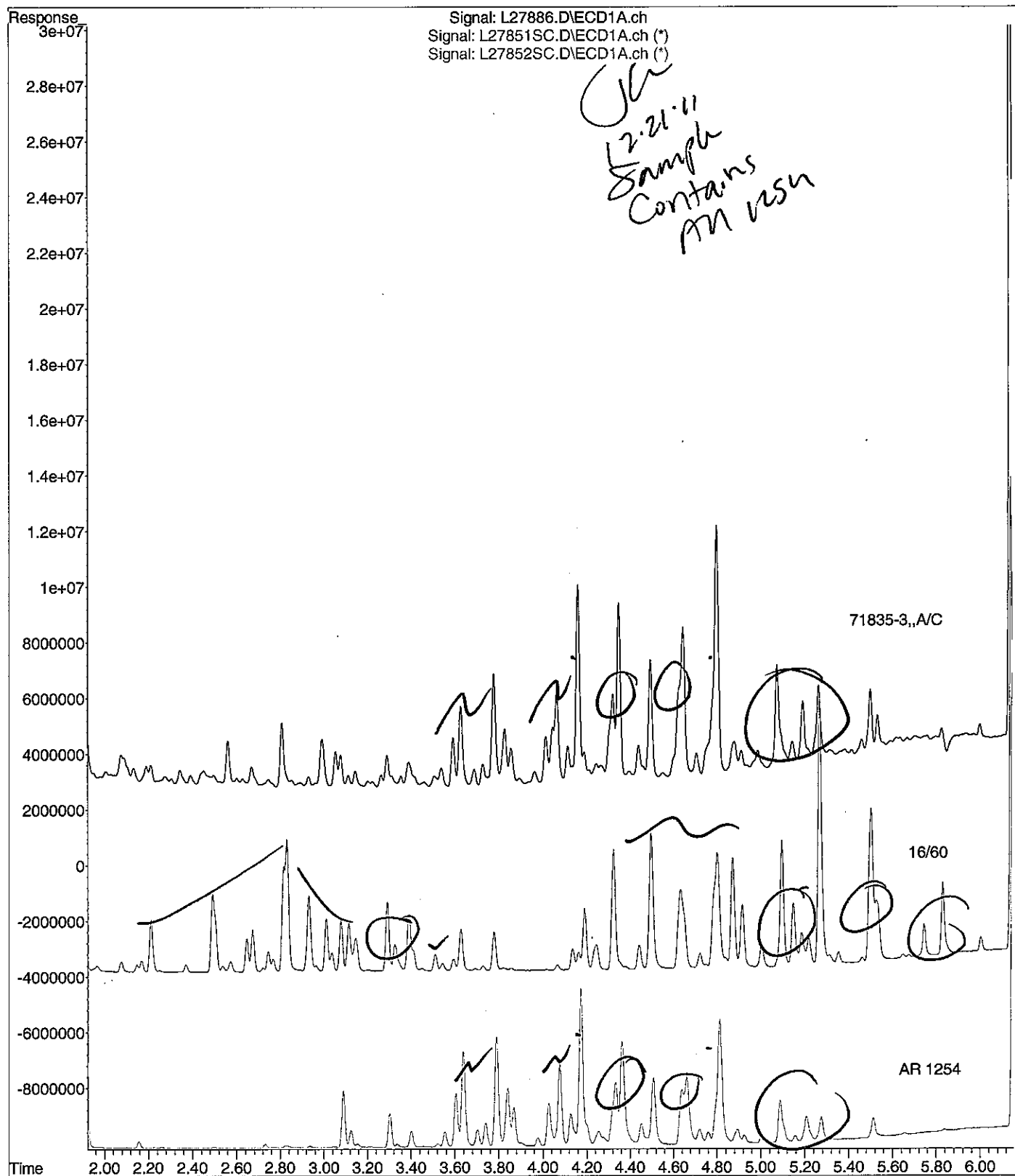
Data Path : C:\msdchem\1\DATA\122011-L\  
Data File : L27886.D  
Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch  
Acq On : 20 Dec 2011 8:08 pm  
Operator : JK  
Sample : 71835-3,,A/C  
Misc : SOIL  
ALS Vial : 25 Sample Multiplier: 1

Integration File signal 1: autoint1.e  
Integration File signal 2: autoint2.e  
Quant Time: Dec 21 14:48:05 2011  
Quant Method : C:\msdchem\1\METHODS\PCB111711.M  
Quant Title : SW-846 METHOD 8082 Aroclor 1016/1260/1254  
QLast Update : Mon Dec 05 10:16:06 2011  
Response via : Initial Calibration  
Integrator: ChemStation

Volume Inj. : 2 uL  
Signal #1 Phase : STX-CLPPesticides Signal #2 Phase: STX-CLPPesticides  
Signal #1 Info : 30 m x 0.25mm x 0 Signal #2 Info : 30 m x 0.25mm x 0.25 um



File :C:\msdchem\1\DATA\122011-L\L27886.D  
Operator : JK  
Acquired : 20 Dec 2011 8:08 pm using AcqMethod PCB.M  
Instrument : Inst L  
Sample Name: 71835-3,,A/C  
Misc Info : SOIL  
Vial Number: 25



PCB  
QC FORMS



# PCB SOIL SYSTEM MONITORING COMPOUNDS SUMMARY

Instrument ID: L  
GC Column #1: STX-CLPesticides I  
Column ID: 0.25 mm  
GC Column #2: STX-CLPesticides II  
Column ID: 0.25 mm

SDG: 71835

[illegible]

	Lower Limit	Upper Limit
SMC #1 = TCX	40	130
SMC #2 = DCB	40	130

# Column to be used to flag recovery values outside of QC limits  
\* Values outside QC limits  
D System Monitoring Compound diluted out



PCB SOIL  
LABORATORY CONTROL SAMPLE/DUPLICATE  
PERCENT RECOVERY

Instrument ID: L

GC Column #1: STX-CLPesticides I

Column ID: 0.25 mm

GC Column #2: STX-CLPesticides II

Column ID: 0.25 mm

SDG: 71835

Non-spiked sample: B121911PSOX,,A/C

Spike: L121911PSOX,,A/C

Spike duplicate: LD121911PSOX,,A/C

COMPOUND	LCS SPIKE	LCSD SPIKE	LOWER	UPPER	RPD	NON-SPIKE	SPIKE	SPIKE		SPIKE DUP		SPIKE DUP		RPD	
	ADDED (ug/kg)	ADDED (ug/kg)	LIMIT	LIMIT	LIMIT	RESULT (ug/kg)	RESULT (ug/kg)	% REC	#	RESULT (ug/kg)	% REC	#	#	#	#
PCB 1016	200	200	65	140	30	0	188	94		203	101			7.7	
PCB 1260	200	200	60	130	30	0	166	83		174	87			5.1	
PCB 1016 #2	200	200	65	140	30	0	175	87		177	88			1.0	
PCB 1260 #2	200	200	60	130	30	0	143	71		152	76			6.0	

# Column to be used to flag recovery and RPD values outside of QC limits

\* Values outside QC limits


LCS/LCSD spike added values have been weight adjusted.

Non-spiked result of "0" used in place of "U" to allow calculation of spike recovery.

Comments: \_\_\_\_\_  
\_\_\_\_\_

## CHAIN OF CUSTODIES

# Chain Of Custody Form

 <b>environmental laboratory LLC</b>		195 Commerce Way Suite E Portsmouth, NH 03801 Phone (603) 438-5111 Fax (603) 430-2151		<b>For Analytics Use Only</b> Rev. 4/03/28/08	
Project# 210980 Proj. Name: <u>Peabody Terrace</u> Company: <u>Woodard &amp; Curran</u> Contact: <u>Amy Wallace</u> Address: <u>41 Hutchins Drive</u> <u>Portland Maine</u> Phone: <u>207-774-2112</u> PO# <u>          </u> Quote # <u>          </u> Sampler (Signature): <u>[Signature]</u>		Matrix Key: C = Concrete WP = Wipe WW = Wastewater SW = Surface Water GW = Groundwater DW = Drinking Water S = Soil/Sludge O = Oil E = Extract X = Other		Samples were: 1) Shipped <u>or</u> hand-delivered 2) Temp blank °C <u>2.1</u> 3) Received in good condition <u>Y</u> or <u>N</u> 4) pH checked by: <u>N/A</u> 5) Labels checked by: <u>WAF 12.19.11</u>	
Station Identification PTZ-CBC-W-2009 PTZ-CBC-W-2011 PTZ-CBC-E-2010		Sample Date 12/19/11 12/19/11 12/19/11		Sample Time 1010 1020 1000	
Analysis PCBs PCBs PCBs		Preservation Unpres H <sub>2</sub> SO <sub>4</sub> HCl Mehtanol Other		Container Key P=plastic G=glass Container number/typ Matrix C 1 G C 1 G C 1 G	
Date: <u>12/19/11</u> Time: <u>11:35</u> Received By: <u>[Signature]</u>		Date: <u>12/19/11</u> Time: <u>          </u> Received By: <u>          </u>		Date: <u>          </u> Time: <u>          </u> Received By: <u>          </u>	
Email Results to: <u>shame@woodardcurran.com</u> <u>awallace@woodardcurran.com</u> <u>JBussell@woodardcurran.com</u>		Comments / Instructions: <u>PCBs 8082 Soxhlet</u>		Project Requirements: Report Type: <input checked="" type="checkbox"/> MCP <input type="checkbox"/> Level II <input type="checkbox"/> Level III <input type="checkbox"/> Level IV <input type="checkbox"/> Standard State: <input type="checkbox"/> NH <input checked="" type="checkbox"/> MA <input type="checkbox"/> ME <input type="checkbox"/> CT <input type="checkbox"/> RI <input type="checkbox"/> Other: <u>          </u> State Standard: <u>          </u> (eg. S-1 or GW-1) EDD Required: <u>Y</u> or <u>N</u> Type: <u>GIS Key</u> Page <u>1</u> of <u>1</u>	
Turnaround Request Standard <input checked="" type="checkbox"/> Priority <input type="checkbox"/> Due Date <u>5/2/12</u> Due Date <u>          </u>		Lab Approval Required <u>[Signature]</u>		*Fee may apply	

ANALYTICS SAMPLE RECEIPT CHECKLIST

AEL LAB#: 71835  
 CLIENT: Woodard + Curran  
 PROJECT: Peabody Terrace

COOLER NUMBER: 272  
 NUMBER OF COOLERS: 1  
 DATE RECEIVED: 12/19/11

**A: PRELIMINARY EXAMINATION:**

1. Cooler received by(initials): DW  
 2. Circle one: Hand delivered  
 (If so, skip 3)  
 3. Did cooler come with a shipping slip? Y N/A

DATE COOLER OPENED: 12/19/11  
 Date Received: 12/19/11

3a. Enter carrier name and airbill number here: \_\_\_\_\_

4. Were custody seals on the outside of cooler?  
 How many & where: \_\_\_\_\_ Seal Date: \_\_\_\_\_ Seal Name: \_\_\_\_\_  
 5. Did the custody seals arrive unbroken and intact upon arrival? Y N/A  
 6. COC: N/A  
 7. Were Custody papers filled out properly (ink, signed, etc)? Y N  
 8. Were custody papers sealed in a plastic bag? Y N  
 9. Did you sign the COC in the appropriate place? Y N  
 10. Was the project identifiable from the COC papers? Y N  
 11. Was enough ice used to chill the cooler? Y N Temp. of cooler: 2.1

**B. Log-In:** Date samples were logged in: 12/19/11 By: DW

12. Type of packing in cooler(bubble wrap, popcorn) Y N  
 13. Were all bottles sealed in separate plastic bags? Y N  
 14. Did all bottles arrive unbroken and were labels in good condition? Y N  
 15. Were all bottle labels complete(ID, Date, time, etc.) Y N  
 16. Did all bottle labels agree with custody papers? Y N  
 17. Were the correct containers used for the tests indicated: Y N  
 18. Were samples received at the correct pH? Y N/A  
 19. Was sufficient amount of sample sent for the tests indicated? Y N  
 20. Were all samples submitted within holding time? Y N  
 21. Were bubbles absent in VOA samples? Y N/A

If NO, List Sample ID's and Lab #s: \_\_\_\_\_

22. Laboratory labeling verified by (initials): mt Date: 12.19.11

January 3, 2012

Ms. Amy Wallace  
Woodard & Curran  
41 Hutchins Drive  
Portland ME 04102

**RE: Analytical Results Case Narrative  
Analytics # 71870  
Peabody Terrace Project No: 210980**

Dear Ms. Wallace;

Enclosed please find the analytical results for samples submitted for the above-mentioned project. The attached Cover Page lists the sample IDs, Lab tracking numbers and collection dates for the samples included in this deliverable.

Samples were analyzed for Polychlorinated Biphenyls (PCBs) by EPA Method 8082.

Unless otherwise noted in the Non-conformance Summary listed below, all of the quality control (QC) criteria including initial calibration, calibration verification, surrogate recovery, holding time and method accuracy/precision for these analyses were within acceptable limits.

This Level II data package has been assembled in the following order:

- Case Narrative/Non-Conformance Summary
- Sample Log Sheet - Cover Page
- PCB Form 1 Data Sheet for Samples and Blanks
- Chromatograms
- PCB Form 10 Confirmation Results
- PCB Form 3 MS/MSD (LCS) Recoveries
- Chain of Custody (COC) Forms

## QC NON-CONFORMANCE SUMMARY

### Sample Receipt:

Samples were received at the laboratory at 22.5° C not on ice which is outside the laboratory acceptance criteria. The client was notified and analysis continued.

### PCBs by EPA Method 8082:

No results were reported below the quantitation limit.

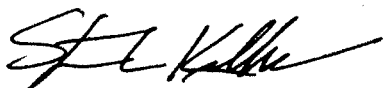
Samples 71870-7 and 71870-8 were analyzed at dilutions due to concentrations of PCBs detected in the samples.

Surrogate recovery for Tetrachloro-m-xylene could not be determined on column#2 for sample 71870-2 due to an interfering peak. Surrogate results for this sample were reported off of column#1.

The closing continuing calibration standard (file#M52997SC) had low recovery for surrogate Decachlorobiphenyl on column#1. Column#2 was in control for all analytes. Results were reported without qualification.

If you have any questions on these results, please do not hesitate to contact me.

Sincerely,  
ANALYTICS Environmental Laboratory, LLC



Stephen L. Knollmeyer  
Laboratory Director

Ms. Amy Wallace  
Woodard & Curran  
41 Hutchins Drive  
Portland ME 04102

**Report Number: 71870**

**Revision: Rev. 0**

**Re: Peabody Terrace (Project No: 210980)**

Enclosed are the results of the analyses on your sample(s). Samples were received on 22 December 2011 and analyzed for the tests listed. Samples were received in acceptable condition, with the exceptions noted below or on the chain of custody. These results pertain to samples as received by the laboratory and for the analytical tests requested on the chain of custody. The results reported herein conform to the most current NELAC standards, where applicable, unless otherwise narrated in the body of the report. Please see individual reports for specific methodologies and references.

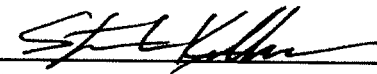
**Sample Analysis:** The attached pages detail the Client Sample IDs, Lab Sample IDs, and Analyses requested

**Sample Receipt Exceptions:** Samples received at 22.5 °C which was outside laboratory acceptance criteria. The client was notified and analysis continued.

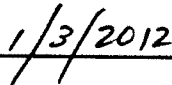
Analytics Environmental Laboratory is certified by the states of New Hampshire, Maine, Massachusetts, Connecticut, Rhode Island, Virginia, Maryland, North Carolina, and is accredited by the Department of Defense (DOD) ELAP program. A list of actual certified parameters is available upon request.

If you have any questions on these results, please do not hesitate to contact us.

Authorized signature

  
Stephen L. Knollmeyer Lab. Director

Date

  
1/3/2012

**This report shall not be reproduced, except in full, without the written consent of Analytics Environmental Laboratory, LLC.**

**CLIENT: Woodard & Curran**

**REPORT NUMBER: 71870**

**REV: Rev. 0**

**PROJECT: Peabody Terrace (Project No: 210980)**

<u>Lab Number</u>	<u>Sample Date</u>	<u>Station Location</u>	<u>Analysis</u>	<u>Comments</u>
71870-1	12/22/11	PTD-CBK-DC01-2015	EPA 8082 (PCBs only)	
71870-2	12/22/11	PTD-CBK-DC01-2016	EPA 8082 (PCBs only)	
71870-3	12/22/11	PTD-CBK-DC01-2018	EPA 8082 (PCBs only)	
71870-4	12/22/11	PTD-CBK-DC02-2019	EPA 8082 (PCBs only)	
71870-5	12/22/11	PTD-CBK-DC02-2020	EPA 8082 (PCBs only)	
71870-6	12/22/11	PTD-CBK-DC02-2021	EPA 8082 (PCBs only)	
71870-7	12/22/11	PTD-CBK-PR01-2022	EPA 8082 (PCBs only)	
71870-8	12/22/11	PTD-CBK-PR01-2023	Electronic Data Deliverable	
	12/22/11	PTD-CBK-PR01-2023	EPA 8082 (PCBs only)	



### MassDEP Analytical Protocol Certification Form

Laboratory Name: Analytics Environmental Laboratory, LLC

Project #: 71870

Project Location: Peabody Terrace

RTN:

**This Form provides certifications for the following data set. Laboratory Sample ID Number(s):**

71870-1 through 71870-8

Matrices: ☐ Groundwater/Surface Water ☐ Soil/Sediment ☐ Drinking Water ☐ Air ☒ Other

**CAM Protocol** (check all that apply below):

8260 VOC CAM II A <input type="checkbox"/>	7470/7471 Hg CAM III B <input type="checkbox"/>	MassDEP VPH CAM IV A <input type="checkbox"/>	8081 Pesticides CAM V B <input type="checkbox"/>	7196 Hex Cr CAM VI B <input type="checkbox"/>	MassDEP APH CAM IX A <input type="checkbox"/>
8270 SVOC CAM II B <input type="checkbox"/>	7010 Metals CAM III C <input type="checkbox"/>	MassDEP EPH CAM IV B <input type="checkbox"/>	8151 Herbicides CAM V C <input type="checkbox"/>	8330 Explosives CAM VIII A <input type="checkbox"/>	TO-15 VOC CAM IX B <input type="checkbox"/>
6010 Metals CAM III A <input type="checkbox"/>	6020 Metals CAM III D <input type="checkbox"/>	8082 PCB CAM V A <input checked="" type="checkbox"/>	9014 Total Cyanide/PAC CAM VI A <input type="checkbox"/>	6860 Perchlorate CAM VIII B <input type="checkbox"/>	

**Affirmative Responses to Questions A through F are required for "Presumptive Certainty" status**

<b>A</b>	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
<b>B</b>	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
<b>C</b>	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
<b>D</b>	Does the laboratory report comply with all reporting requirements specified in CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data"?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
<b>E</b>	a. VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? (Refer to individual method(s) for a list of significant modifications). b. APH and TO-15 Methods only: Was the complete analyte list reported for each method?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Yes <input type="checkbox"/> No
<b>F</b>	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No

**Responses to Questions G, H and I below are required for "Presumptive Certainty" status**


<b>G</b>	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <sup>1</sup>
----------	---	--

**Data User Note: Data that achieve "Presumptive Certainty" status may not necessarily meet the data usability and representativeness requirements described in 310 CMR 40.1056 (2)(k) and WSC-07-350.**

<b>H</b>	Were ALL QC performance standards specified in the CAM protocol(s) achieved?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <sup>1</sup>
<b>I</b>	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <sup>1</sup>

<sup>1</sup> All negative responses must be addressed in an attached laboratory narrative.

*I, the undersigned, attest under the pains and penalties of perjury that, based upon my personal inquiry of those responsible for obtaining the information, the material contained in this analytical report is, to the best of my knowledge and belief, accurate and complete.*

Signature: 

Position: Laboratory Director

Printed Name: Stephen L. Knollmeyer

Date: January 03, 2012

**Surrogate Compound Limits**

Matrix: Units:	Aqueous % Recovery	Solid % Recovery	Method
<b>Volatile Organic Compounds - Drinking Water</b>			
1,4-Difluorobenzene	70-130		EPA 524.2
Bromofluorobenzene	70-130		
1,2-Dichlorobenzene-d4	70-130		
<b>Volatile Organic Compounds</b>			
1,2-Dichloroethane-d4	70-120	70-120	EPA 624/8260B
Toluene-d8	85-120	85-120	
Bromofluorobenzene	75-120	75-120	
<b>Semi-Volatile Organic Compounds</b>			
2-Fluorophenol	20-110	35-105	EPA 625/8270C
d5-Phenol	15-110	40-100	
d5-nitrobenzene	40-110	35-100	
2-Fluorobiphenyl	50-110	45-105	
2,4,6-Tribromophenol	40-110	40-125	
d14-p-terphenyl	50-130	30-125	
<b>PAH's by SIM</b>			
d5-nitrobenzene	21-110	35-110	EPA 8270C
2-Fluorobiphenyl	36-121	45-105	
d14-p-terphenyl	33-141	30-125	
<b>Pesticides and PCBs</b>			
2,4,5,6-Tetrachloro-m-xylene (TCX)	46-122	40-130	EPA 608/8082
Decachlorobiphenyl (DCB)	40-135	40-130	
<b>Herbicides</b>			
Dichloroacetic acid (DCAA)	30-150	30-150	
<b>Gasoline Range Organics/TPH Gasoline</b>			
Trifluorotoluene TFT (FID)	60-140	60-140	MEDEP 4217/EPA 8015
Bromofluorobenzene (BFB) (FID)	60-140	60-140	
Trifluorotoluene TFT (PID)	60-140	60-140	
Bromofluorobenzene (BFB) (PID)	60-140	60-140	
<b>Diesel Range Organics/TPH Diesel</b>			
m-terphenyl	60-140	60-140	MEDEP 4125/EPA 8015/CT ETPH
<b>Volatile Petroleum Hydrocarbons</b>			
2,5-Dibromotoluene (PID)	70-130	70-130	MADEP VPH May 2004 Rev1.1
2,5-Dibromotoluene (FID)	70-130	70-130	
<b>Extracatable Petroleum Hydrocarbons</b>			
1-chloro-octadecane (aliphatic)	40-140	40-140	MADEP EPH May 2004 Rev1.1
o-Terphenyl (aromatic)	40-140	40-140	
2-Fluorobiphenyl (Fractionation)	40-140	40-140	
2-Bromonaphthalene (fractionation)	40-140	40-140	

## PCB DATA SUMMARIES

Ms. Amy Wallace  
Woodard & Curran  
41 Hutchins Drive  
Portland ME 04102

December 30, 2011

**SAMPLE DATA**

**CLIENT SAMPLE ID**

**Project Name:** Peabody Terrace  
**Project Number:** 210980  
**Field Sample ID:** Lab QC

**Lab Sample ID:** B122711PSOX  
**Matrix:** Soil  
**Percent Solid:** 100  
**Dilution Factor:** 1.0  
**Collection Date:**  
**Lab Receipt Date:**  
**Extraction Date:** 12/27/11  
**Analysis Date:** 12/29/11

**PCB ANALYTICAL RESULTS**

COMPOUND	Quantitation Limit $\mu\text{g/kg}$	Results $\mu\text{g/kg}$
PCB-1016	33	U
PCB-1221	33	U
PCB-1232	33	U
PCB-1242	33	U
PCB-1248	33	U
PCB-1254	33	U
PCB-1260	33	U
PCB-1262	33	U
PCB-1268	33	U
<b><u>Surrogate Standard Recovery</u></b>		
2,4,5,6-Tetrachloro-m-xylene	88	%
Decachlorobiphenyl	75	%
U=Undetected J=Estimated E=Exceeds Calibration Range B=Detected in Blank		

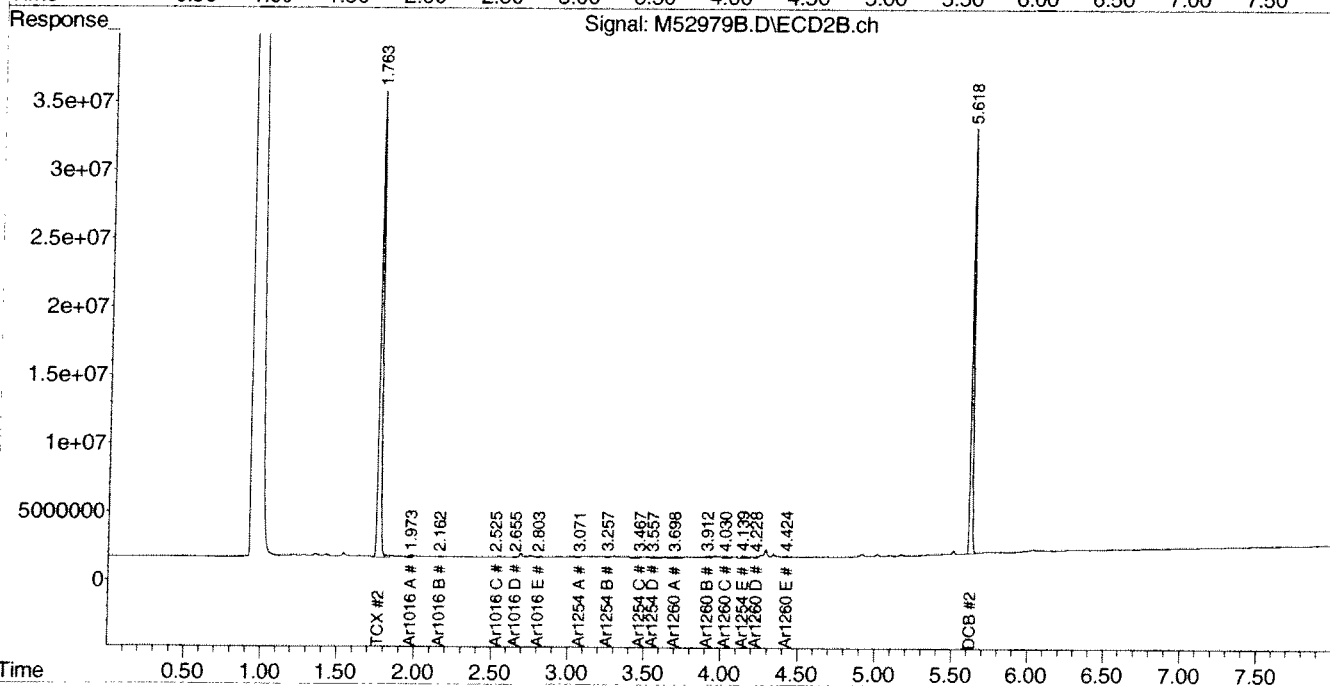
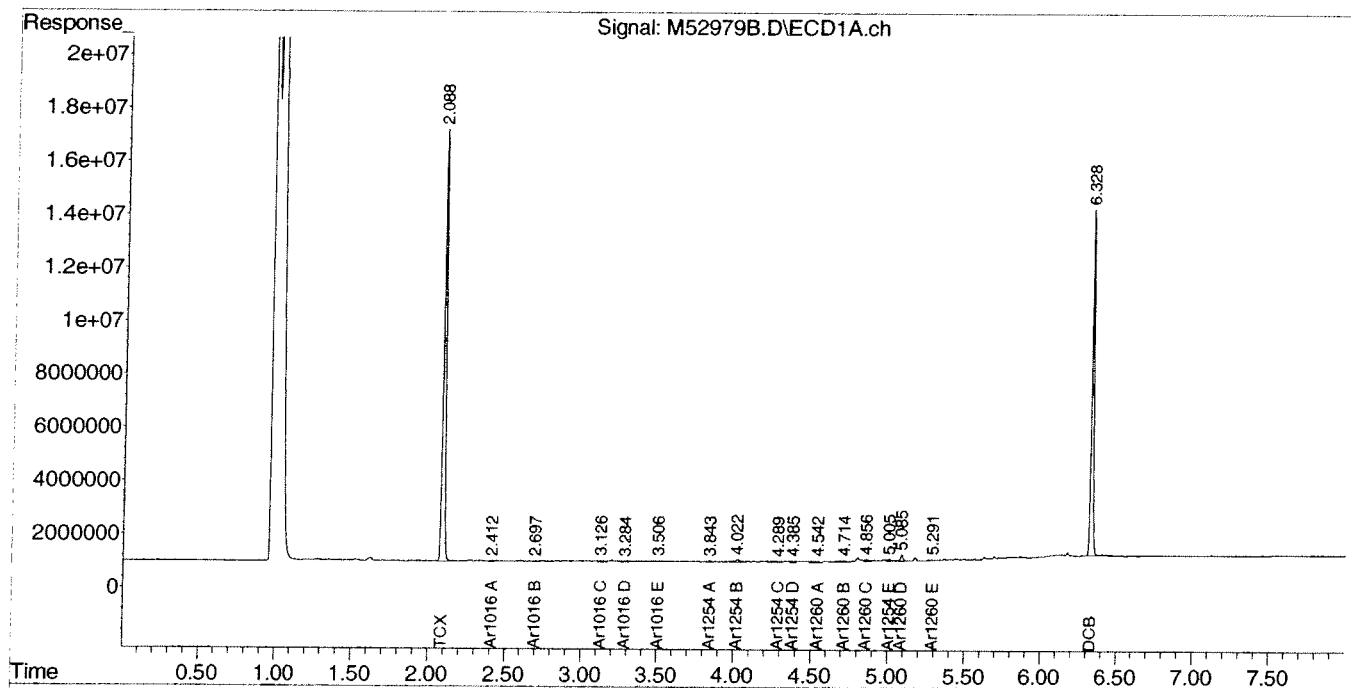
**METHODOLOGY:** Sample analysis conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 8082.  
Sample preparation conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 3540C.  
Sample cleanup was conducted according to SW-846 Method 3665A.

**COMMENTS:** Results are expressed on a dry weight basis.

Data Path : C:\msdchem\1\DATA\122911-M\  
Data File : M52979B.D  
Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch  
Acq On : 29 Dec 2011 2:00 pm  
Operator : JK  
Sample : B122711PSOX,,A/C  
Misc : SOIL  
ALS Vial : 7 Sample Multiplier: 1

Integration File signal 1: events.e  
Integration File signal 2: events2.e  
Quant Time: Dec 30 11:58:38 2011  
Quant Method : C:\msdchem\1\METHODS\PCB122711.M  
Quant Title : SW-846 METHOD 8082 Aroclor 1016/1260/1254  
QLast Update : Wed Dec 28 10:19:27 2011  
Response via : Initial Calibration  
Integrator: ChemStation

Volume Inj. : 2 uL  
Signal #1 Phase : STX-CLPPesticides Signal #2 Phase: STX-CLPPesticides  
Signal #1 Info : 30 m x 0.25mm x 0 Signal #2 Info : 30 m x 0.25mm x 0.25 um



Ms. Amy Wallace  
Woodard & Curran  
41 Hutchins Drive  
Portland ME 04102

December 30, 2011

**SAMPLE DATA**

**CLIENT SAMPLE ID**

**Project Name:** Peabody Terrace  
**Project Number:** 210980  
**Field Sample ID:** PTD-CBK-DC01-2015

**Lab Sample ID:** 71870-1  
**Matrix:** Soil  
**Percent Solid:** 99  
**Dilution Factor:** 6  
**Collection Date:** 12/22/11  
**Lab Receipt Date:** 12/22/11  
**Extraction Date:** 12/27/11  
**Analysis Date:** 12/29/11

**PCB ANALYTICAL RESULTS**

COMPOUND	Quantitation Limit $\mu\text{g/kg}$	Results $\mu\text{g/kg}$
PCB-1016	198	U
PCB-1221	198	U
PCB-1232	198	U
PCB-1242	198	U
PCB-1248	198	U
PCB-1254	198	U
PCB-1260	198	U
PCB-1262	198	U
PCB-1268	198	U
<b><u>Surrogate Standard Recovery</u></b>		
2,4,5,6-Tetrachloro-m-xylene	66 %	
Decachlorobiphenyl	58 %	
U=Undetected J=Estimated E=Exceeds Calibration Range B=Detected in Blank		

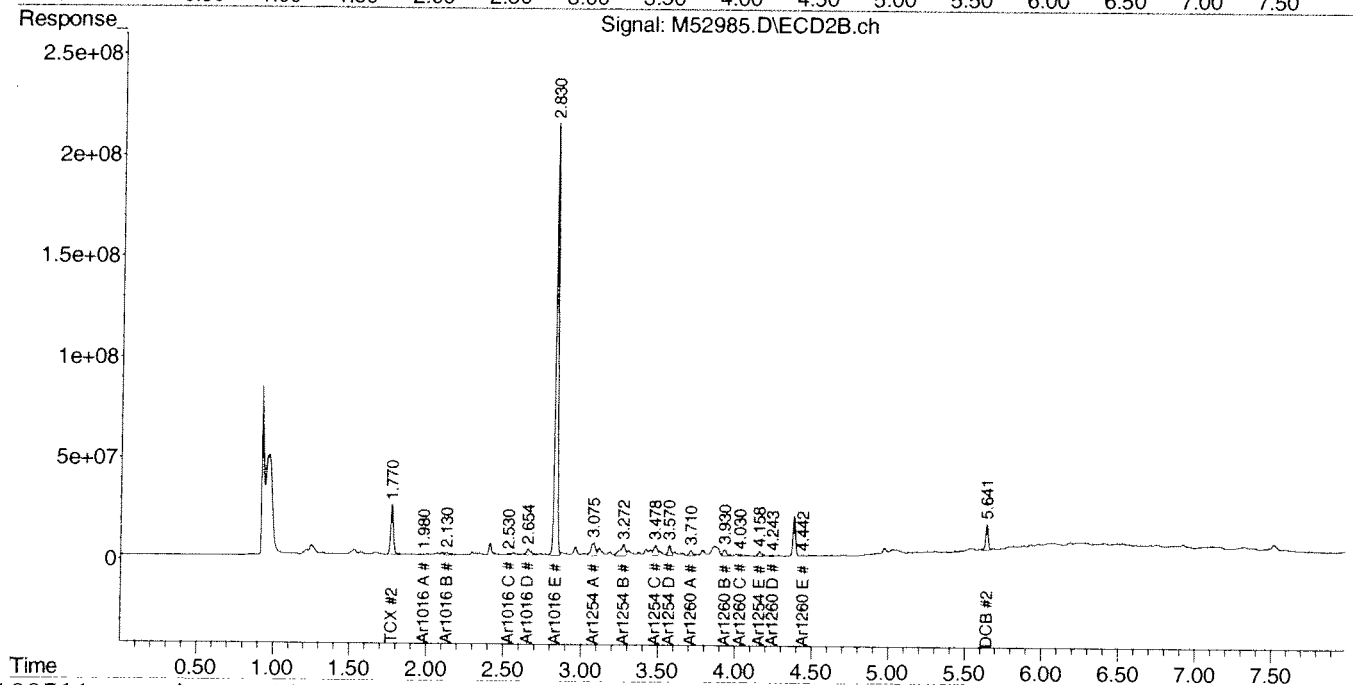
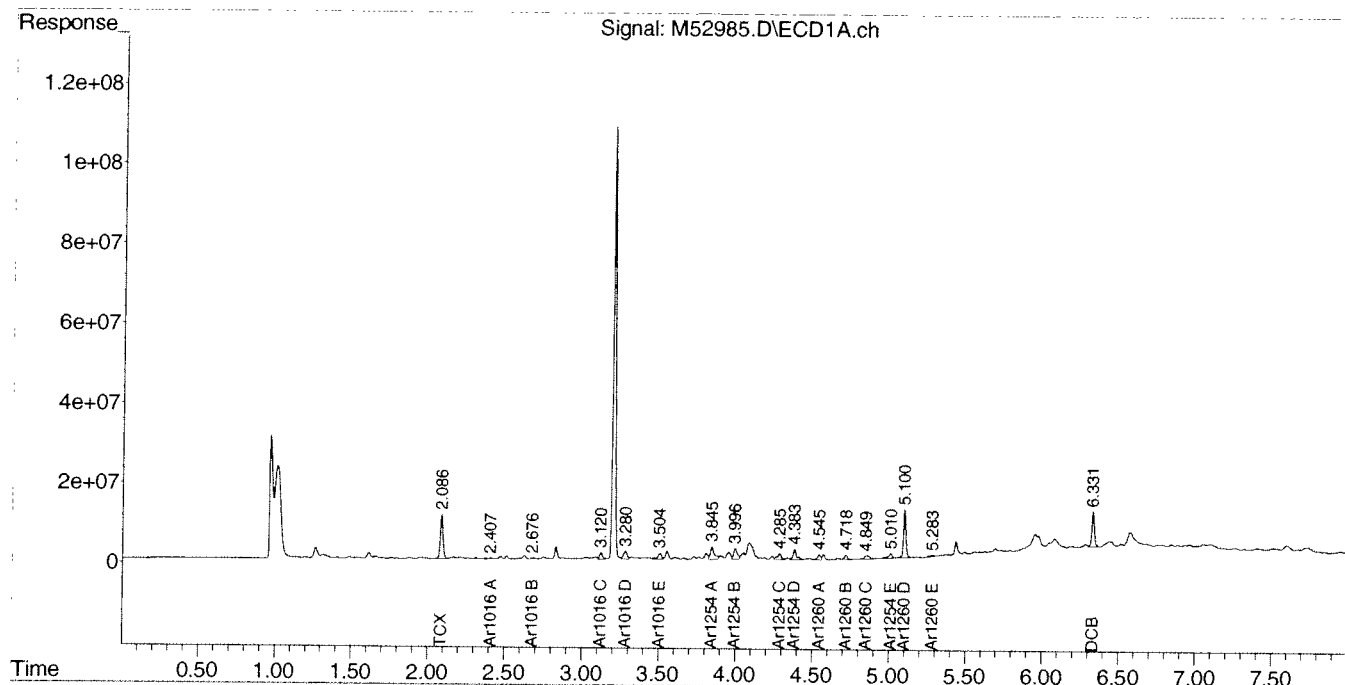
**METHODOLOGY:** Sample analysis conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 8082.  
Sample preparation conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 3540C.  
Sample cleanup was conducted according to SW-846 Method 3665A.

**COMMENTS:** Results are expressed on a dry weight basis.

Data Path : C:\msdchem\1\DATA\122911-M\  
Data File : M52985.D  
Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch  
Acq On : 29 Dec 2011 3:00 pm  
Operator : JK  
Sample : 71870-1,,A/C  
Misc : SOIL  
ALS Vial : 13 Sample Multiplier: 1

Integration File signal 1: events.e  
Integration File signal 2: events2.e  
Quant Time: Dec 30 11:58:50 2011  
Quant Method : C:\msdchem\1\METHODS\PCB122711.M  
Quant Title : SW-846 METHOD 8082 Aroclor 1016/1260/1254  
QLast Update : Wed Dec 28 10:19:28 2011  
Response via : Initial Calibration  
Integrator: ChemStation

Volume Inj. : 2 uL  
Signal #1 Phase : STX-CLPPesticides Signal #2 Phase: STX-CLPPesticides  
Signal #1 Info : 30 m x 0.25mm x 0 Signal #2 Info : 30 m x 0.25mm x 0.25 um



Ms. Amy Wallace  
Woodard & Curran  
41 Hutchins Drive  
Portland ME 04102

December 30, 2011

**SAMPLE DATA**

**CLIENT SAMPLE ID**

**Project Name:** Peabody Terrace

**Project Number:** 210980

**Field Sample ID:** PTD-CBK-DC01-2016

**Lab Sample ID:** 71870-2

**Matrix:** Soil

**Percent Solid:** 99

**Dilution Factor:** 4.4

**Collection Date:** 12/22/11

**Lab Receipt Date:** 12/22/11

**Extraction Date:** 12/27/11

**Analysis Date:** 12/29/11

**PCB ANALYTICAL RESULTS**

COMPOUND	Quantitation Limit $\mu\text{g/kg}$	Results $\mu\text{g/kg}$
PCB-1016	145	U
PCB-1221	145	U
PCB-1232	145	U
PCB-1242	145	U
PCB-1248	145	U
PCB-1254	145	U
PCB-1260	145	U
PCB-1262	145	U
PCB-1268	145	U
<b><u>Surrogate Standard Recovery</u></b>		
2,4,5,6-Tetrachloro-m-xylene	86 %	
Decachlorobiphenyl	30 %	
U=Undetected J=Estimated E=Exceeds Calibration Range B=Detected in Blank		

**METHODOLOGY:** Sample analysis conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 8082.  
Sample preparation conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 3540C.  
Sample cleanup was conducted according to SW-846 Method 3665A.

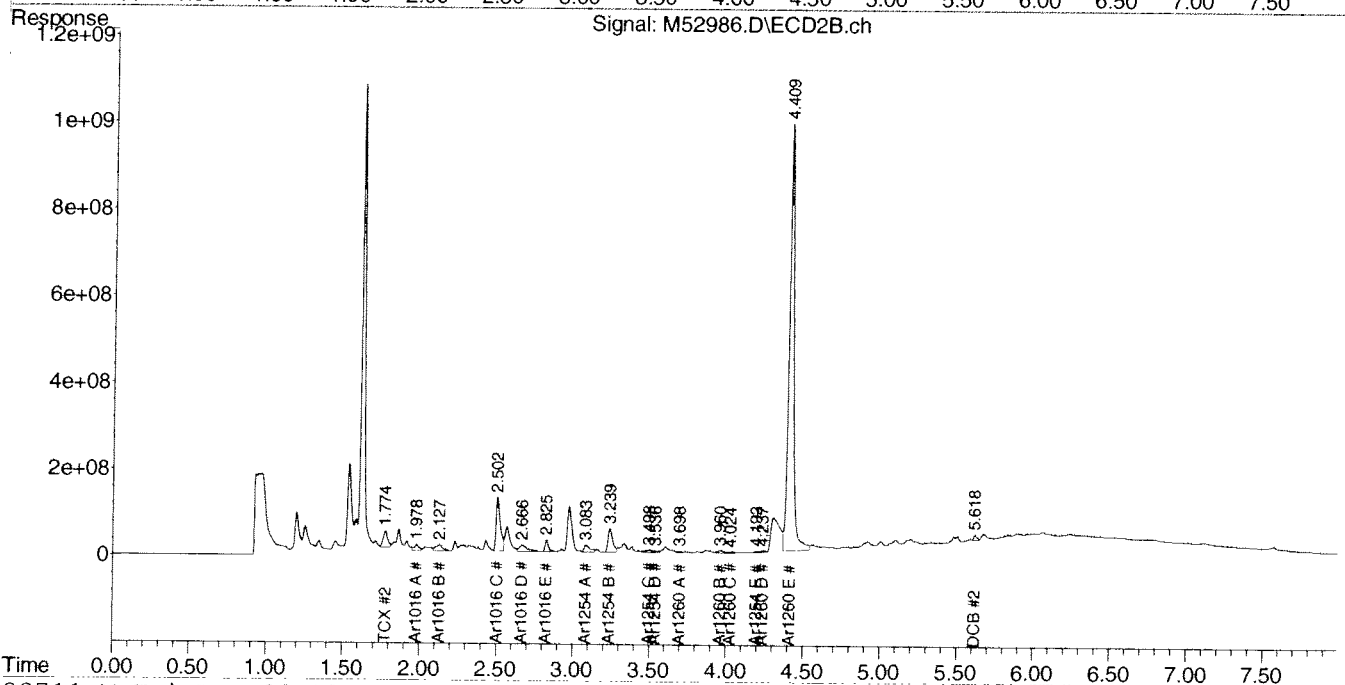
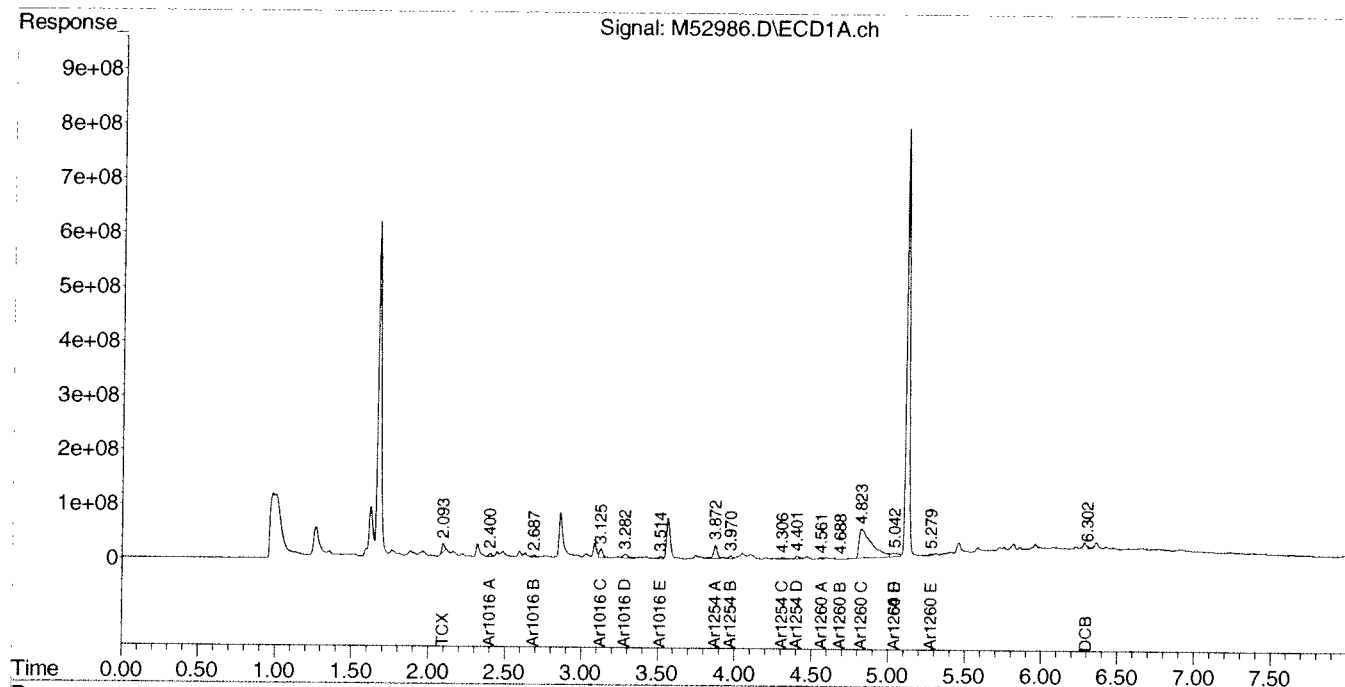
**COMMENTS:** Results are expressed on a dry weight basis.



Data Path : C:\msdchem\1\DATA\122911-M\  
Data File : M52986.D  
Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch  
Acq On : 29 Dec 2011 3:10 pm  
Operator : JK  
Sample : 71870-2,,A/C  
Misc : SOIL  
ALS Vial : 14 Sample Multiplier: 1

Integration File signal 1: events.e  
Integration File signal 2: events2.e  
Quant Time: Dec 30 13:39:27 2011  
Quant Method : C:\msdchem\1\METHODS\PCB122711.M  
Quant Title : SW-846 METHOD 8082 Aroclor 1016/1260/1254  
QLast Update : Wed Dec 28 10:19:28 2011  
Response via : Initial Calibration  
Integrator: ChemStation

Volume Inj. : 2 uL  
Signal #1 Phase : STX-CLPPesticides Signal #2 Phase: STX-CLPPesticides  
Signal #1 Info : 30 m x 0.25mm x 0 Signal #2 Info : 30 m x 0.25mm x 0.25 um



Ms. Amy Wallace  
Woodard & Curran  
41 Hutchins Drive  
Portland ME 04102

December 30, 2011

**SAMPLE DATA**

**CLIENT SAMPLE ID**

---

**Project Name:** Peabody Terrace  
**Project Number:** 210980  
**Field Sample ID:** PTD-CBK-DC01-2018

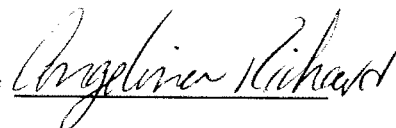
**Lab Sample ID:** 71870-3  
**Matrix:** Soil  
**Percent Solid:** 99  
**Dilution Factor:** 10  
**Collection Date:** 12/22/11  
**Lab Receipt Date:** 12/22/11  
**Extraction Date:** 12/27/11  
**Analysis Date:** 12/29/11

**PCB ANALYTICAL RESULTS**

COMPOUND	Quantitation Limit $\mu\text{g/kg}$	Results $\mu\text{g/kg}$
PCB-1016	330	U
PCB-1221	330	U
PCB-1232	330	U
PCB-1242	330	U
PCB-1248	330	U
PCB-1254	330	U
PCB-1260	330	U
PCB-1262	330	U
PCB-1268	330	U
<b><u>Surrogate Standard Recovery</u></b>		
2,4,5,6-Tetrachloro-m-xylene	66	%
Decachlorobiphenyl	83	%
U=Undetected J=Estimated E=Exceeds Calibration Range B=Detected in Blank		

**METHODOLOGY:** Sample analysis conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 8082.  
Sample preparation conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 3540C.  
Sample cleanup was conducted according to SW-846 Method 3665A.

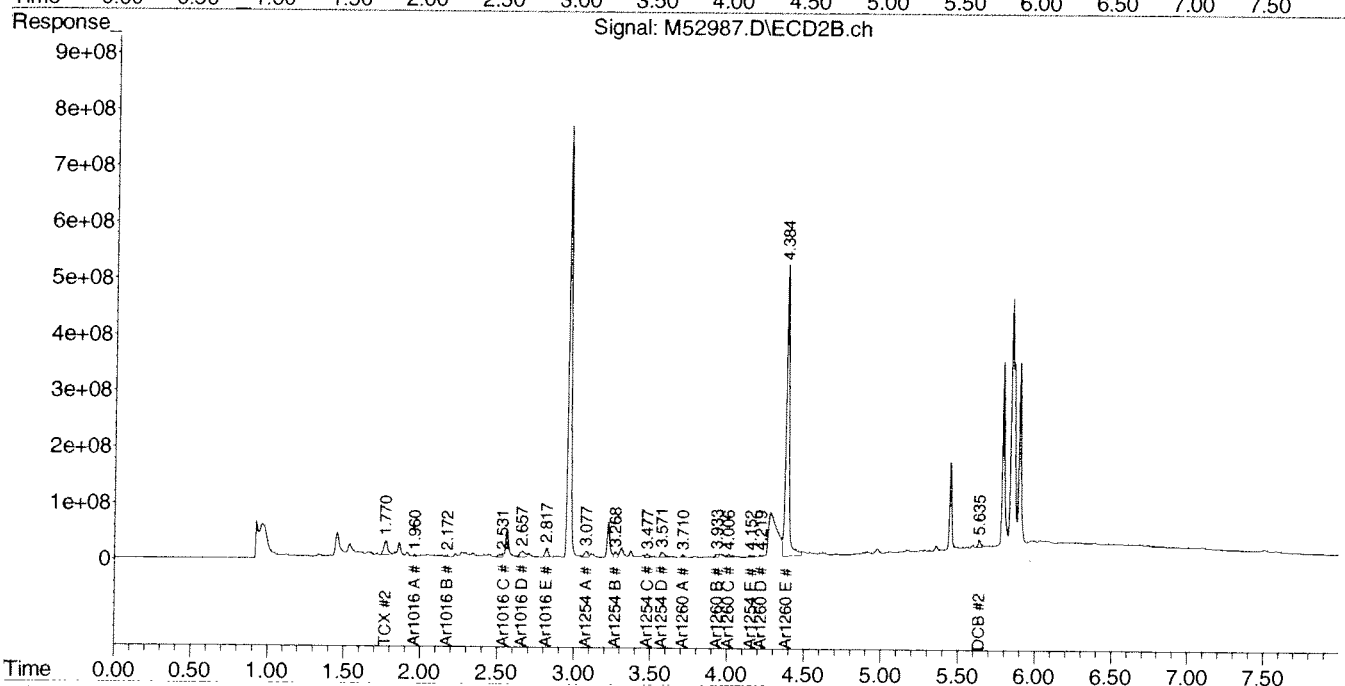
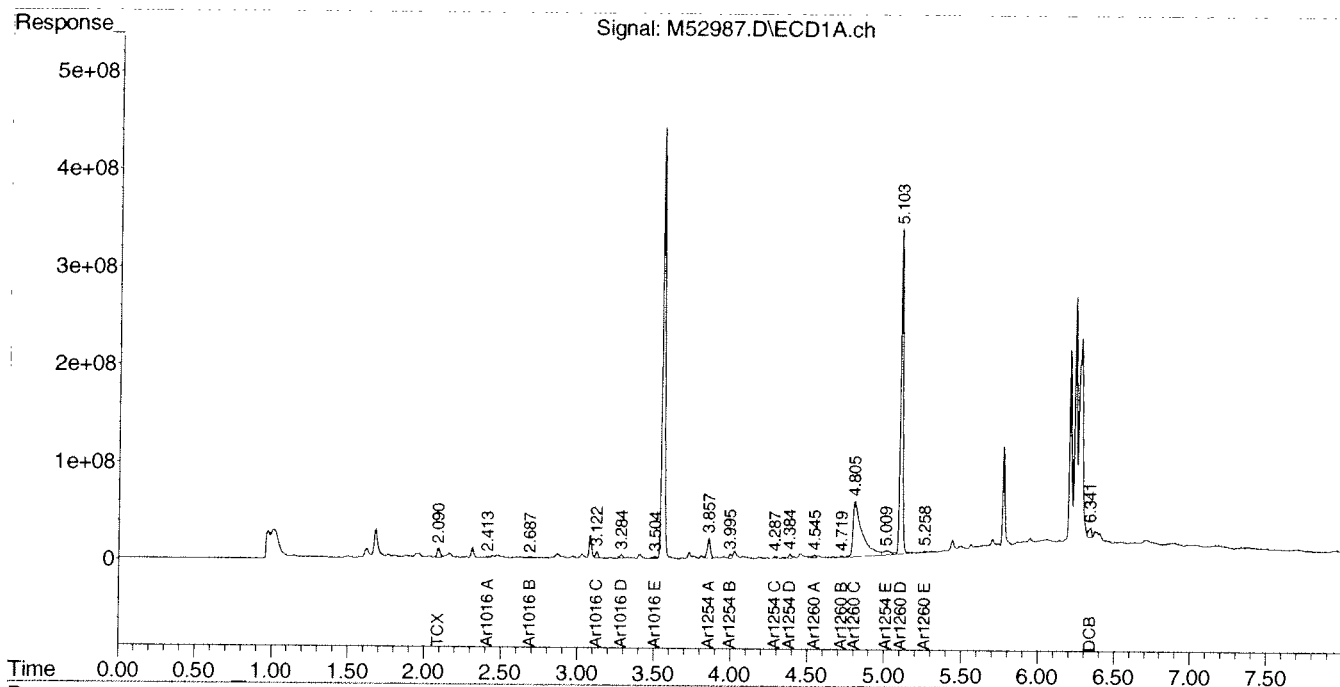
**COMMENTS:** Results are expressed on a dry weight basis.



Data Path : C:\msdchem\1\DATA\122911-M\  
Data File : M52987.D  
Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch  
Acq On : 29 Dec 2011 3:20 pm  
Operator : JK  
Sample : 71870-3,,A/C  
Misc : SOIL  
ALS Vial : 15 Sample Multiplier: 1

Integration File signal 1: events.e  
Integration File signal 2: events2.e  
Quant Time: Dec 30 13:40:20 2011  
Quant Method : C:\msdchem\1\METHODS\PCB122711.M  
Quant Title : SW-846 METHOD 8082 Aroclor 1016/1260/1254  
QLast Update : Wed Dec 28 10:19:28 2011  
Response via : Initial Calibration  
Integrator: ChemStation

Volume Inj. : 2 uL  
Signal #1 Phase : STX-CLPPesticides Signal #2 Phase: STX-CLPPesticides  
Signal #1 Info : 30 m x 0.25mm x 0 Signal #2 Info : 30 m x 0.25mm x 0.25 um



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December 30, 2011

**SAMPLE DATA**

**CLIENT SAMPLE ID**

---

**Project Name:** Peabody Terrace  
**Project Number:** 210980  
**Field Sample ID:** PTD-CBK-DC02-2019

**Lab Sample ID:** 71870-4  
**Matrix:** Soil  
**Percent Solid:** 99  
**Dilution Factor:** 8  
**Collection Date:** 12/22/11  
**Lab Receipt Date:** 12/22/11  
**Extraction Date:** 12/27/11  
**Analysis Date:** 12/29/11

PCB ANALYTICAL RESULTS		
COMPOUND	Quantitation Limit $\mu\text{g/kg}$	Results $\mu\text{g/kg}$
PCB-1016	264	U
PCB-1221	264	U
PCB-1232	264	U
PCB-1242	264	U
PCB-1248	264	U
PCB-1254	264	U
PCB-1260	264	U
PCB-1262	264	U
PCB-1268	264	U
<b><u>Surrogate Standard Recovery</u></b>		
2,4,5,6-Tetrachloro-m-xylene	97 %	
Decachlorobiphenyl	77 %	
U=Undetected J=Estimated E=Exceeds Calibration Range B=Detected in Blank		

**METHODOLOGY:** Sample analysis conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 8082.  
Sample preparation conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 3540C.  
Sample cleanup was conducted according to SW-846 Method 3665A.

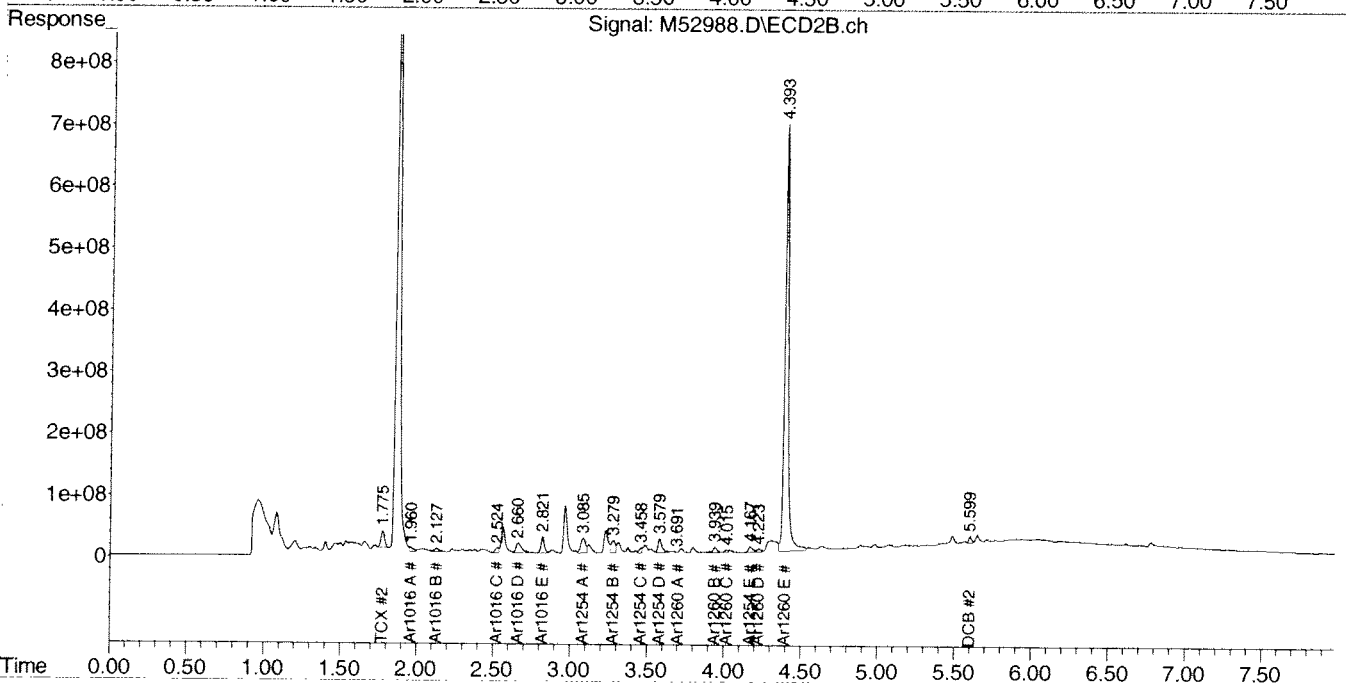
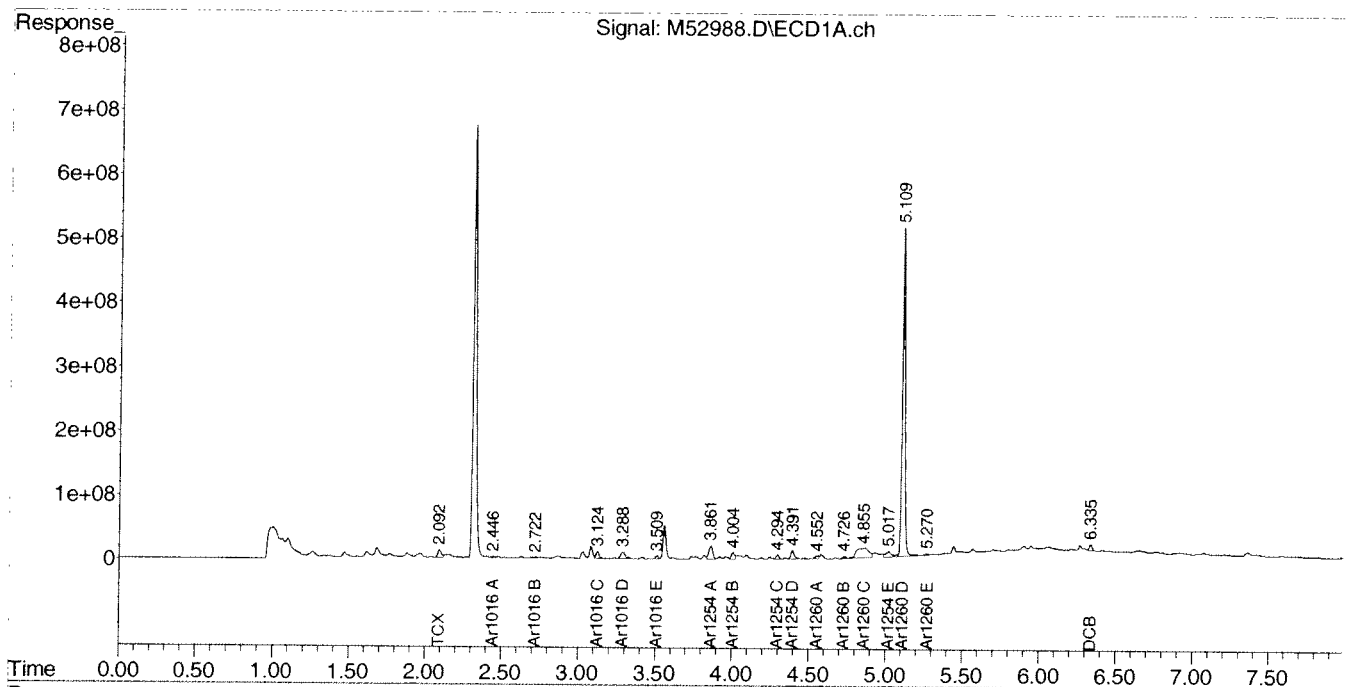
**COMMENTS:** Results are expressed on a dry weight basis.



Data Path : C:\msdchem\1\DATA\122911-M\  
Data File : M52988.D  
Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch  
Acq On : 29 Dec 2011 3:30 pm  
Operator : JK  
Sample : 71870-4,,A/C  
Misc : SOIL  
ALS Vial : 16 Sample Multiplier: 1

Integration File signal 1: events.e  
Integration File signal 2: events2.e  
Quant Time: Dec 30 13:41:16 2011  
Quant Method : C:\msdchem\1\METHODS\PCB122711.M  
Quant Title : SW-846 METHOD 8082 Aroclor 1016/1260/1254  
QLast Update : Wed Dec 28 10:19:28 2011  
Response via : Initial Calibration  
Integrator: ChemStation

Volume Inj. : 2 uL  
Signal #1 Phase : STX-CLPPesticides Signal #2 Phase: STX-CLPPesticides  
Signal #1 Info : 30 m x 0.25mm x 0.25 um Signal #2 Info : 30 m x 0.25mm x 0.25 um



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December 30, 2011

**SAMPLE DATA**

**CLIENT SAMPLE ID**

---

**Project Name:** Peabody Terrace  
**Project Number:** 210980  
**Field Sample ID:** PTD-CBK-DC02-2020

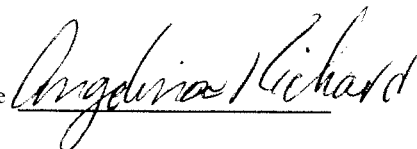
**Lab Sample ID:** 71870-5  
**Matrix:** Soil  
**Percent Solid:** 98  
**Dilution Factor:** 8  
**Collection Date:** 12/22/11  
**Lab Receipt Date:** 12/22/11  
**Extraction Date:** 12/27/11  
**Analysis Date:** 12/29/11

**PCB ANALYTICAL RESULTS**

COMPOUND	Quantitation Limit $\mu\text{g/kg}$	Results $\mu\text{g/kg}$
PCB-1016	264	U
PCB-1221	264	U
PCB-1232	264	U
PCB-1242	264	U
PCB-1248	264	U
PCB-1254	264	<b>7650</b>
PCB-1260	264	U
PCB-1262	264	U
PCB-1268	264	U
<b><u>Surrogate Standard Recovery</u></b>		
2,4,5,6-Tetrachloro-m-xylene	78	%
Decachlorobiphenyl	56	%
U=Undetected J=Estimated E=Exceeds Calibration Range B=Detected in Blank		

**METHODOLOGY:** Sample analysis conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 8082.  
Sample preparation conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 3540C.  
Sample cleanup was conducted according to SW-846 Method 3665A.

**COMMENTS:** Results are expressed on a dry weight basis.



PCB  
COLUMN RELATIVE PERCENT DIFFERENCE

Instrument ID: M	SDG: 71870
GC Column #1: STX-CLPesticides I	Sample: 71870-5,,A/C
Column ID: 0.25 mm	Data File: M52989.D
GC Column #2: STX-CLPesticides II	Dilution Factor: 8.0
Column ID: 0.25 mm	

Column #1		Column #2		#
COMPOUND	SAMPLE RESULT (ug/kg)	SAMPLE RESULT (ug/kg)	RPD	
PCB 1254	7510	7652	1.9	

# Column to be used to flag RPD values greater than QC limit of 40%

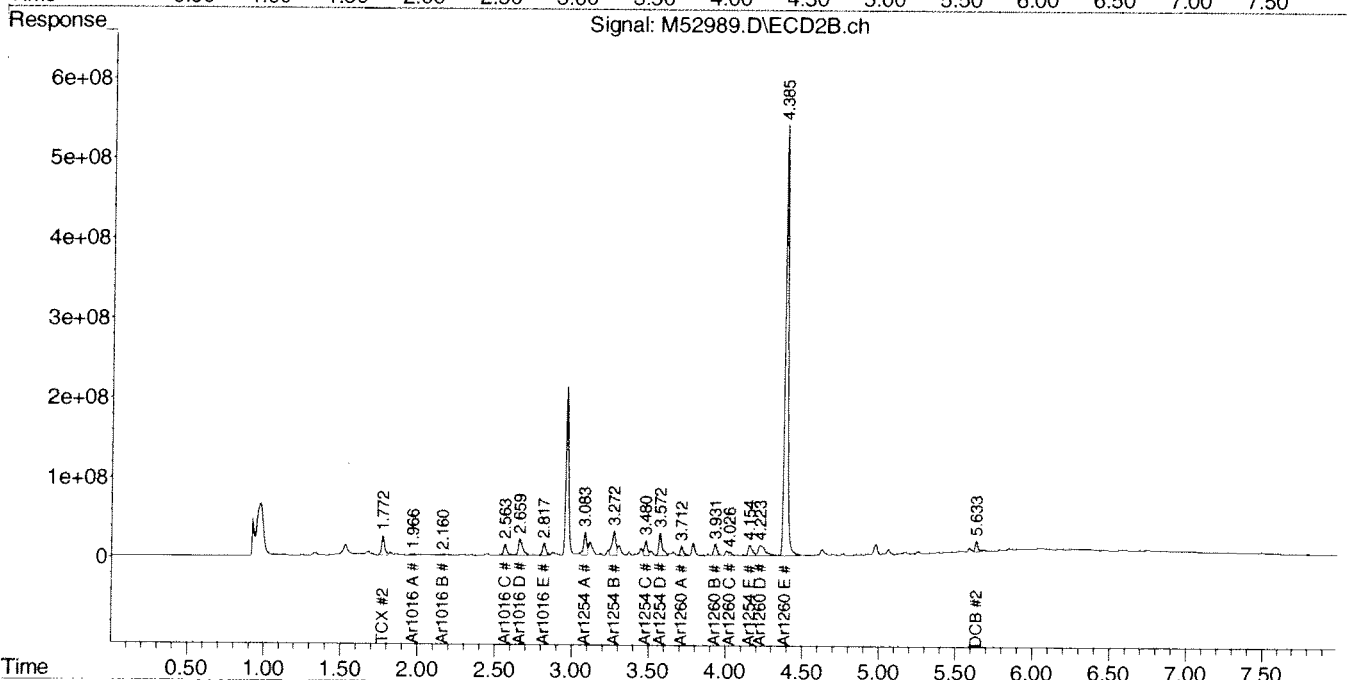
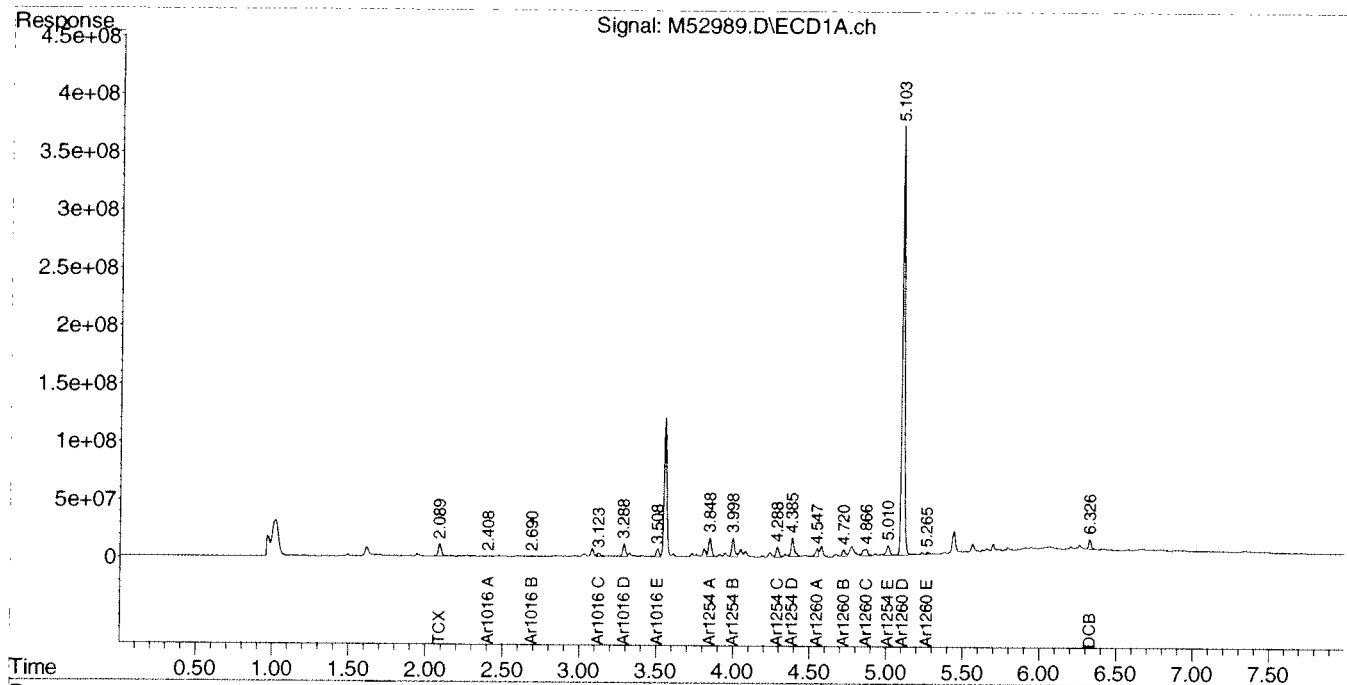
\* Values outside QC limits

Comments: \_\_\_\_\_

Data Path : C:\msdchem\1\DATA\122911-M\  
Data File : M52989.D  
Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch  
Acq On : 29 Dec 2011 3:40 pm  
Operator : JK  
Sample : 71870-5,,A/C  
Misc : SOIL  
ALS Vial : 17 Sample Multiplier: 1

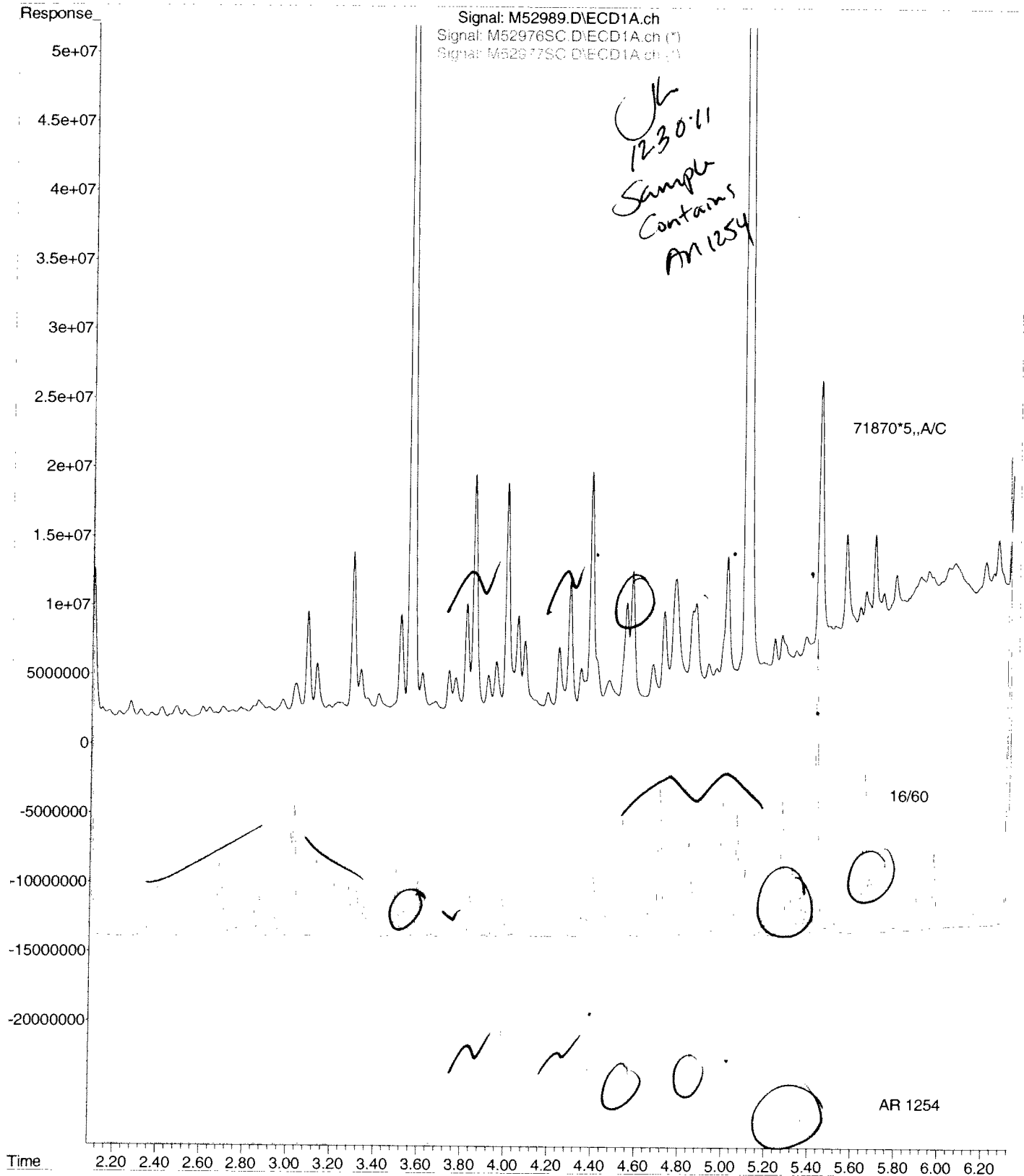
Integration File signal 1: events.e  
Integration File signal 2: events2.e  
Quant Time: Dec 30 13:41:58 2011  
Quant Method : C:\msdchem\1\METHODS\PCB122711.M  
Quant Title : SW-846 METHOD 8082 Aroclor 1016/1260/1254  
QLast Update : Wed Dec 28 10:19:28 2011  
Response via : Initial Calibration  
Integrator: ChemStation

Volume Inj. : 2 uL  
Signal #1 Phase : STX-CLPPesticides Signal #2 Phase: STX-CLPPesticides  
Signal #1 Info : 30 m x 0.25mm x 0 Signal #2 Info : 30 m x 0.25mm x 0.25 um





File :C:\msdchem\1\DATA\122911-M\M52989.D  
Operator : JK  
Acquired : 29 Dec 2011 3:40 pm using AcqMethod PCB.M  
Instrument : Instrument M  
Sample Name: 71870-5,,A/C  
Misc Info : SOIL  
Vial Number: 17



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December 30, 2011

**SAMPLE DATA**

**CLIENT SAMPLE ID**

---

**Project Name:** Peabody Terrace  
**Project Number:** 210980  
**Field Sample ID:** PTD-CBK-DC02-2021

**Lab Sample ID:** 71870-6  
**Matrix:** Soil  
**Percent Solid:** 99  
**Dilution Factor:** 11  
**Collection Date:** 12/22/11  
**Lab Receipt Date:** 12/22/11  
**Extraction Date:** 12/27/11  
**Analysis Date:** 12/29/11

**PCB ANALYTICAL RESULTS**

COMPOUND	Quantitation Limit $\mu\text{g/kg}$	Results $\mu\text{g/kg}$
PCB-1016	363	U
PCB-1221	363	U
PCB-1232	363	U
PCB-1242	363	U
PCB-1248	363	U
PCB-1254	363	<b>7810</b>
PCB-1260	363	U
PCB-1262	363	U
PCB-1268	363	U
<b><u>Surrogate Standard Recovery</u></b>		
2,4,5,6-Tetrachloro-m-xylene	72 %	
Decachlorobiphenyl	50 %	
U=Undetected J=Estimated E=Exceeds Calibration Range B=Detected in Blank		

**METHODOLOGY:** Sample analysis conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 8082.  
Sample preparation conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 3540C.  
Sample cleanup was conducted according to SW-846 Method 3665A.

**COMMENTS:** Results are expressed on a dry weight basis.

PCB  
COLUMN RELATIVE PERCENT DIFFERENCE

Instrument ID: M	SDG: 71870
GC Column #1: STX-CLPesticides I	Sample: 71870-6,,A/C
Column ID: 0.25 mm	Data File: M52990.D
GC Column #2: STX-CLPesticides II	Dilution Factor: 10.8
Column ID: 0.25 mm	

Column #1		Column #2		
COMPOUND	SAMPLE RESULT (ug/kg)	SAMPLE RESULT (ug/kg)	RPD	#
PCB 1254	7807	7705	1.3	

# Column to be used to flag RPD values greater than QC limit of 40%

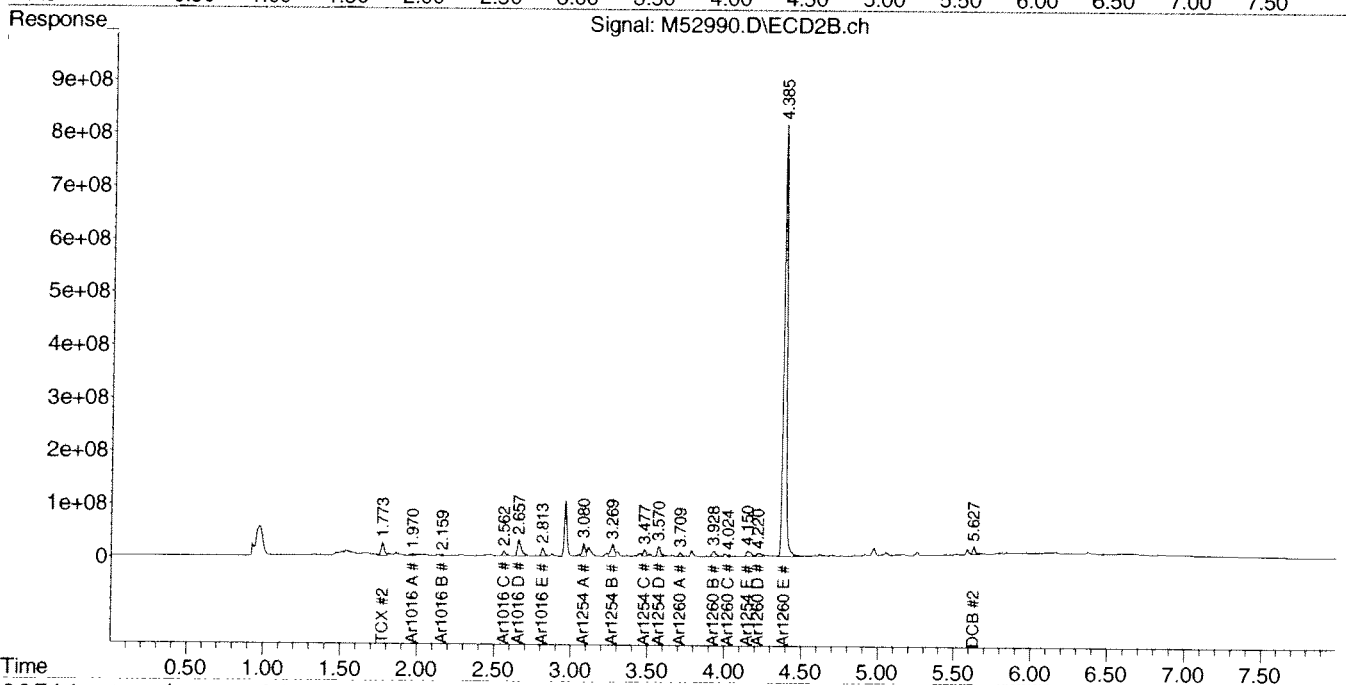
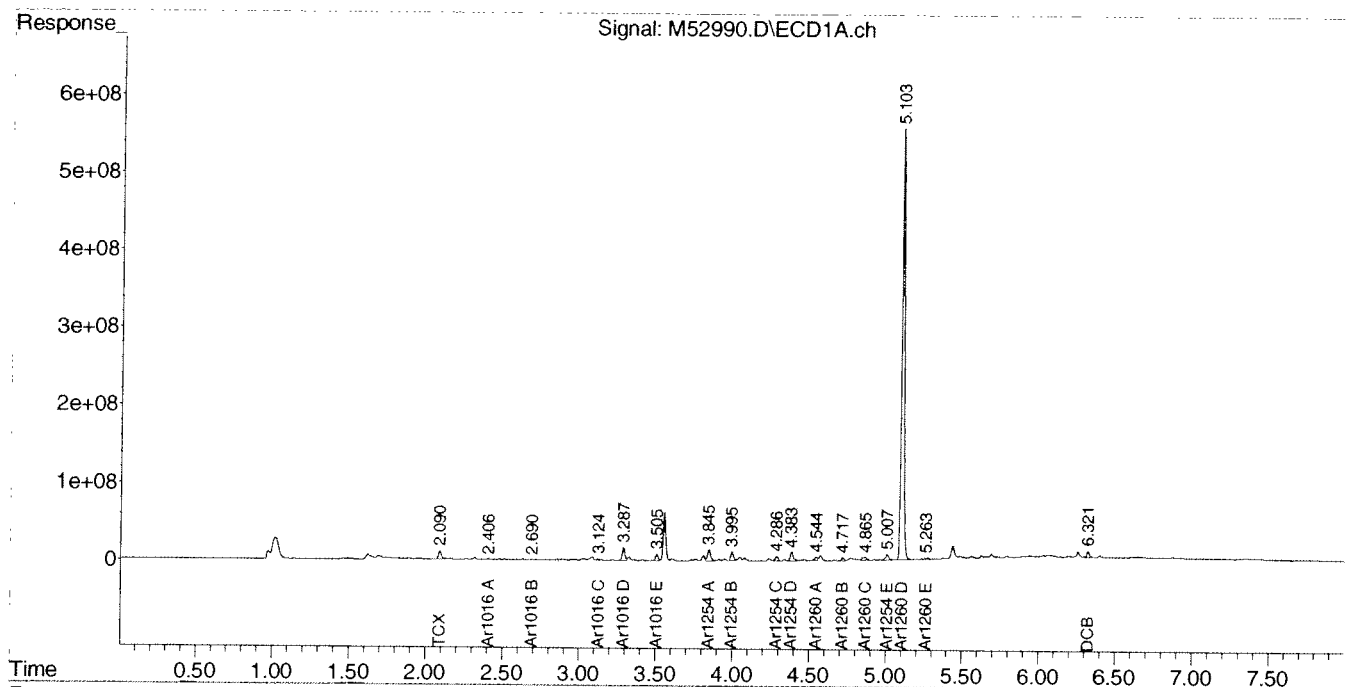
\* Values outside QC limits

Comments: \_\_\_\_\_

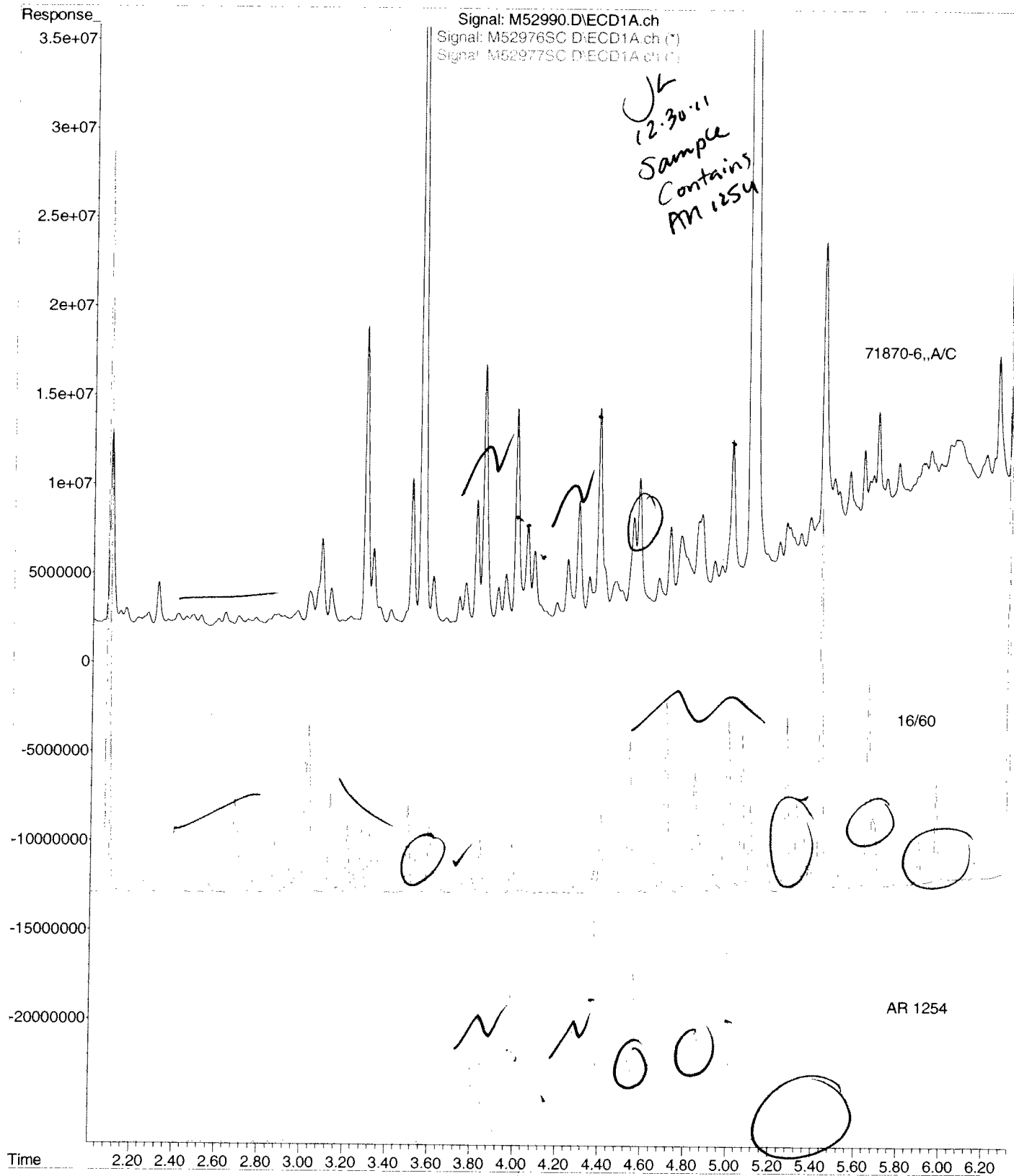
Data Path : C:\msdchem\1\DATA\122911-M\  
Data File : M52990.D  
Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch  
Acq On : 29 Dec 2011 3:50 pm  
Operator : JK  
Sample : 71870-6,,A/C  
Misc : SOIL  
ALS Vial : 18 Sample Multiplier: 1

Integration File signal 1: events.e  
Integration File signal 2: events2.e  
Quant Time: Dec 30 11:59:00 2011  
Quant Method : C:\msdchem\1\METHODS\PCB122711.M  
Quant Title : SW-846 METHOD 8082 Aroclor 1016/1260/1254  
QLast Update : Wed Dec 28 10:19:28 2011  
Response via : Initial Calibration  
Integrator: ChemStation

Volume Inj. : 2 uL  
Signal #1 Phase : STX-CLPPesticides Signal #2 Phase: STX-CLPPesticides  
Signal #1 Info : 30 m x 0.25mm x 0 Signal #2 Info : 30 m x 0.25mm x 0.25 um



File :C:\msdchem\1\DATA\122911-M\M52990.D  
Operator : JK  
Acquired : 29 Dec 2011 3:50 pm using AcqMethod PCB.M  
Instrument : Instrument M  
Sample Name: 71870-6,,A/C  
Misc Info : SOIL  
Vial Number: 18



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December 30, 2011

**SAMPLE DATA**

**CLIENT SAMPLE ID**

**Project Name:** Peabody Terrace  
**Project Number:** 210980  
**Field Sample ID:** PTD-CBK-PR01-2022

**Lab Sample ID:** 71870-7  
**Matrix:** Soil  
**Percent Solid:** 99  
**Dilution Factor:** 14  
**Collection Date:** 12/22/11  
**Lab Receipt Date:** 12/22/11  
**Extraction Date:** 12/27/11  
**Analysis Date:** 12/29/11

**PCB ANALYTICAL RESULTS**

COMPOUND	Quantitation Limit $\mu\text{g/kg}$	Results $\mu\text{g/kg}$
PCB-1016	462	U
PCB-1221	462	U
PCB-1232	462	U
PCB-1242	462	<b>12400</b>
PCB-1248	462	U
PCB-1254	462	<b>9760</b>
PCB-1260	462	U
PCB-1262	462	U
PCB-1268	462	U
<b><u>Surrogate Standard Recovery</u></b>		
2,4,5,6-Tetrachloro-m-xylene	72 %	
Decachlorobiphenyl	46 %	
U=Undetected J=Estimated E=Exceeds Calibration Range B=Detected in Blank		

**METHODOLOGY:** Sample analysis conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 8082.  
Sample preparation conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 3540C.  
Sample cleanup was conducted according to SW-846 Method 3665A.

**COMMENTS:** Results are expressed on a dry weight basis.

*Angelina Richard*

PCB  
COLUMN RELATIVE PERCENT DIFFERENCE

Instrument ID: M	SDG: 71870
GC Column #1: STX-CLPesticides I	Sample: 71870-7,1:2,,A/C
Column ID: 0.25 mm	Data File: M52995.D
GC Column #2: STX-CLPesticides II	Dilution Factor: 14.4
Column ID: 0.25 mm	

Column #1		Column #2		#
COMPOUND	SAMPLE RESULT (ug/kg)	SAMPLE RESULT (ug/kg)	RPD	
PCB 1242	12454	12229	1.8	
PCB 1254	9763	9479	2.9	

# Column to be used to flag RPD values greater than QC limit of 40%

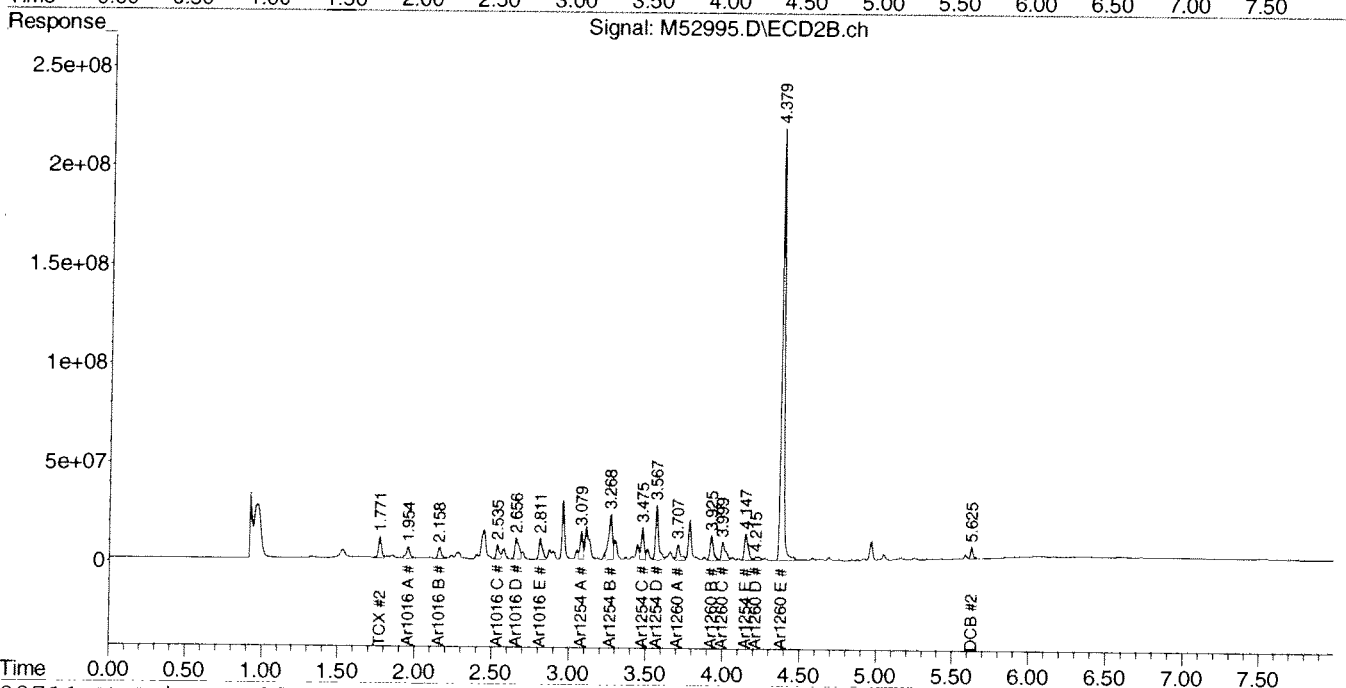
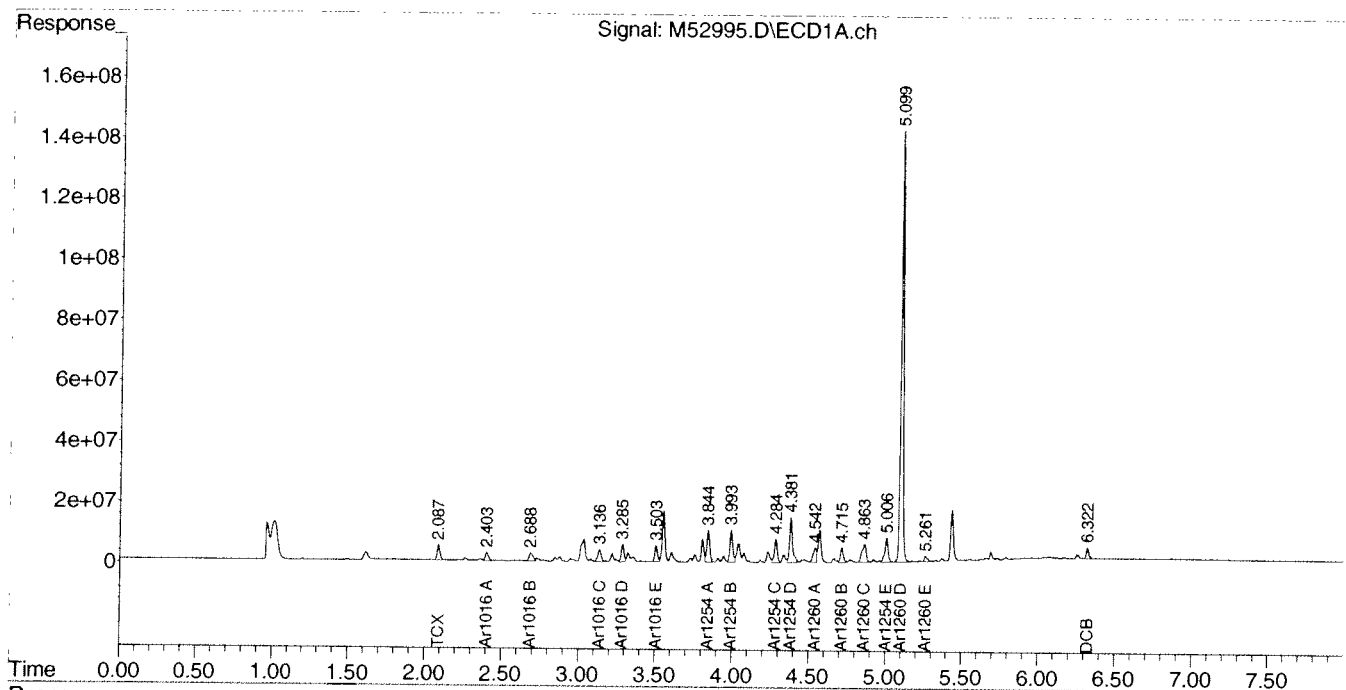
\* Values outside QC limits

Comments: \_\_\_\_\_

Data Path : C:\msdchem\1\DATA\122911-M\  
Data File : M52995.D  
Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch  
Acq On : 29 Dec 2011 4:41 pm  
Operator : JK  
Sample : 71870-7,1:2,,A/C  
Misc : SOIL  
ALS Vial : 6 Sample Multiplier: 1

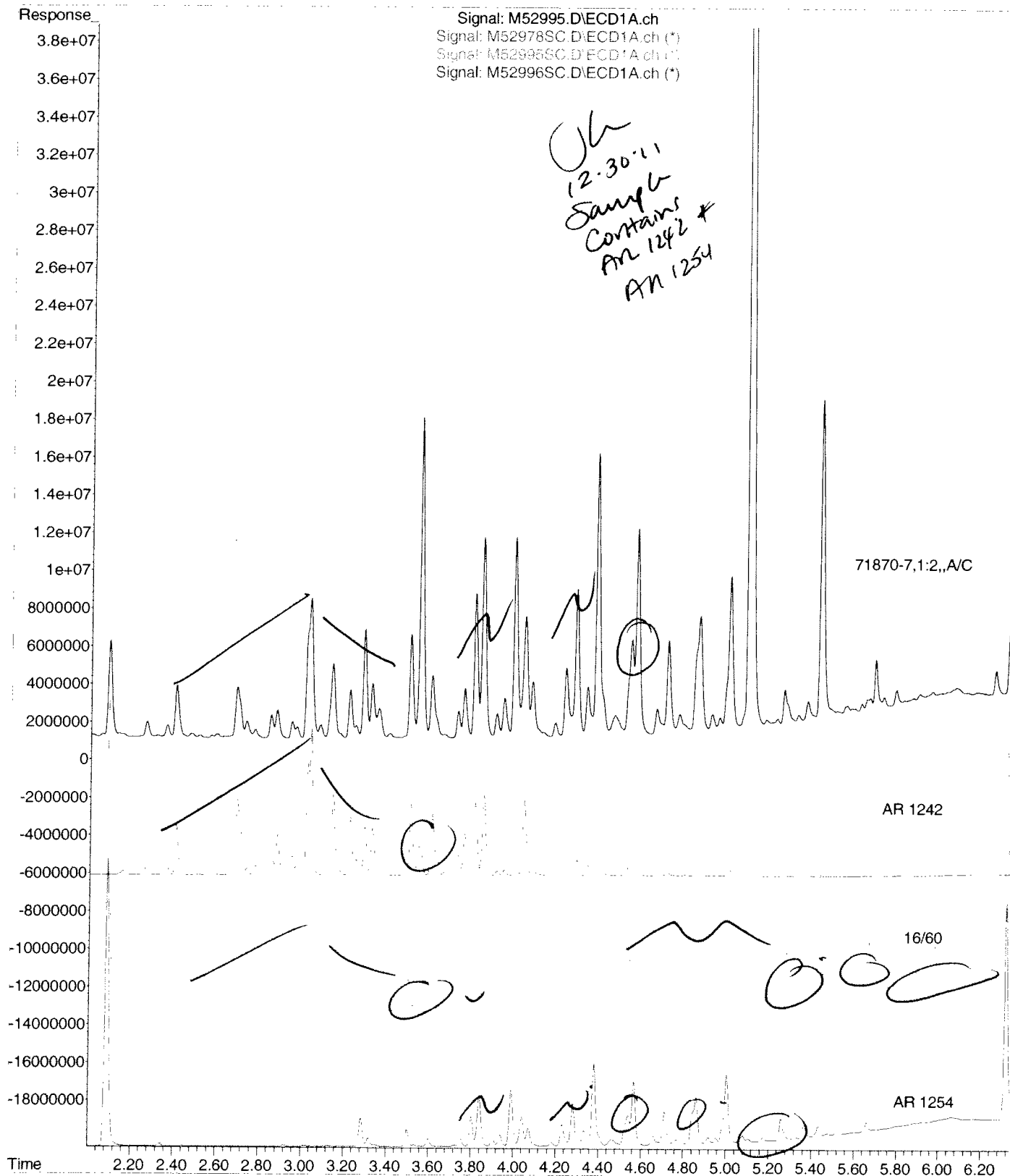
Integration File signal 1: events.e  
Integration File signal 2: events2.e  
Quant Time: Dec 30 13:50:47 2011  
Quant Method : C:\msdchem\1\METHODS\PCB122711.M  
Quant Title : SW-846 METHOD 8082 Aroclor 1016/1260/1254  
QLast Update : Wed Dec 28 10:19:28 2011  
Response via : Initial Calibration  
Integrator: ChemStation

Volume Inj. : 2 uL  
Signal #1 Phase : STX-CLPPesticides Signal #2 Phase: STX-CLPPesticides  
Signal #1 Info : 30 m x 0.25mm x 0 Signal #2 Info : 30 m x 0.25mm x 0.25 um





File :C:\msdchem\1\DATA\122911-M\M52995.D  
Operator : JK  
Acquired : 29 Dec 2011 4:41 pm using AcqMethod PCB.M  
Instrument : Instrument M  
Sample Name: 71870-7,1:2,,A/C  
Misc Info : SOIL  
Vial Number: 6



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December 30, 2011

**SAMPLE DATA**

**CLIENT SAMPLE ID**

**Project Name:** Peabody Terrace  
**Project Number:** 210980  
**Field Sample ID:** PTD-CBK-PR01-2023

**Lab Sample ID:** 71870-8  
**Matrix:** Soil  
**Percent Solid:** 100  
**Dilution Factor:** 13  
**Collection Date:** 12/22/11  
**Lab Receipt Date:** 12/22/11  
**Extraction Date:** 12/27/11  
**Analysis Date:** 12/29/11

**PCB ANALYTICAL RESULTS**

COMPOUND	Quantitation Limit $\mu\text{g/kg}$	Results $\mu\text{g/kg}$
PCB-1016	429	U
PCB-1221	429	U
PCB-1232	429	U
PCB-1242	429	U
PCB-1248	429	U
PCB-1254	429	<b>5120</b>
PCB-1260	429	U
PCB-1262	429	U
PCB-1268	429	U
<b><u>Surrogate Standard Recovery</u></b>		
2,4,5,6-Tetrachloro-m-xylene	66 %	
Decachlorobiphenyl	56 %	
U=Undetected J=Estimated E=Exceeds Calibration Range B=Detected in Blank		

**METHODOLOGY:** Sample analysis conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 8082.  
Sample preparation conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 3540C.  
Sample cleanup was conducted according to SW-846 Method 3665A.

**COMMENTS:** Results are expressed on a dry weight basis.



PCB  
COLUMN RELATIVE PERCENT DIFFERENCE

Instrument ID: M

SDG: 71870

GC Column #1: STX-CLPesticides I

Sample: 71870-8,1:2,,A/C

Column ID: 0.25 mm

Data File: M52992.D

GC Column #2: STX-CLPesticides II

Dilution Factor: 13.2

Column ID: 0.25 mm

Column #1		Column #2		#
COMPOUND	SAMPLE RESULT (ug/kg)	SAMPLE RESULT (ug/kg)	RPD	
PCB 1254	5116	5102	0.3	

# Column to be used to flag RPD values greater than QC limit of 40%

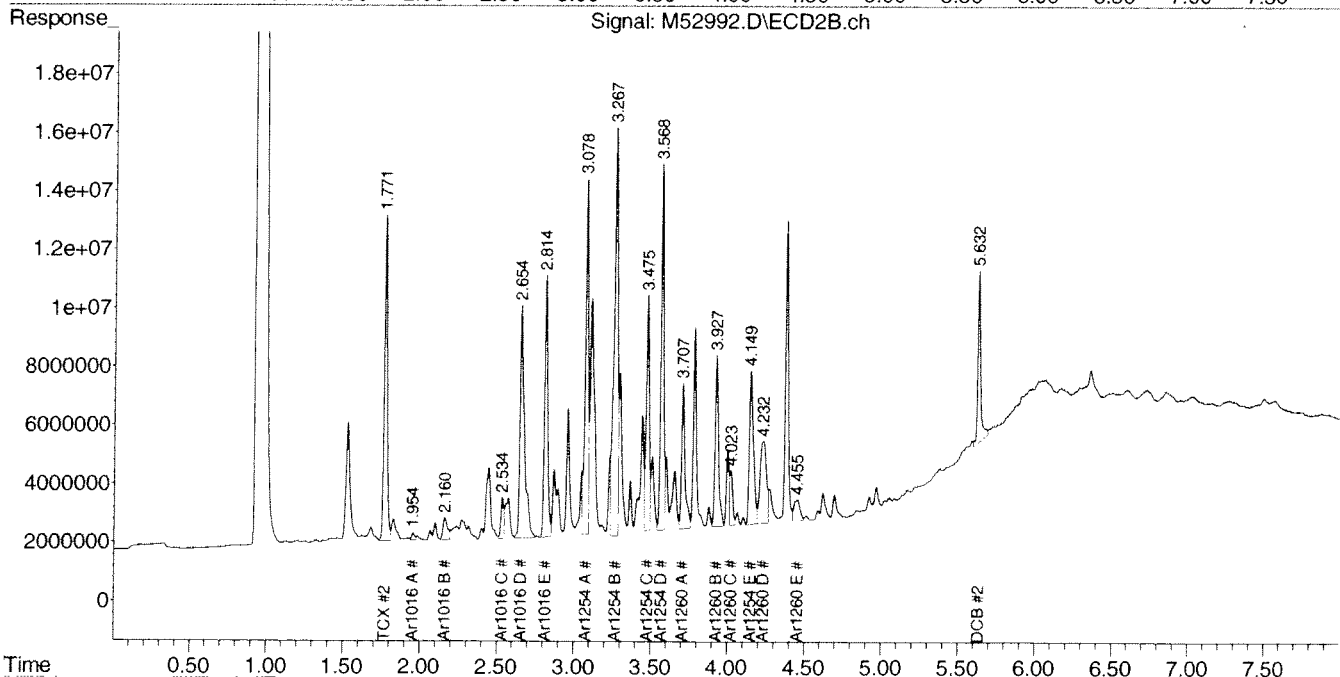
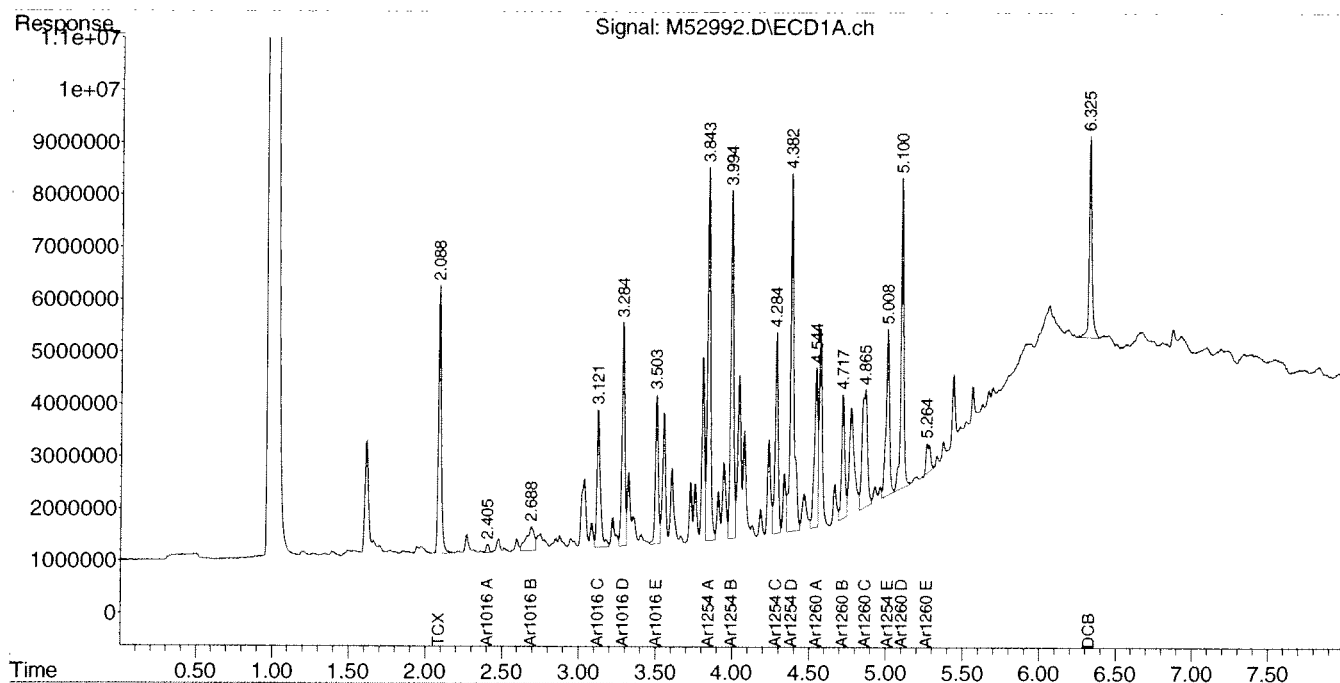
\* Values outside QC limits

Comments: \_\_\_\_\_

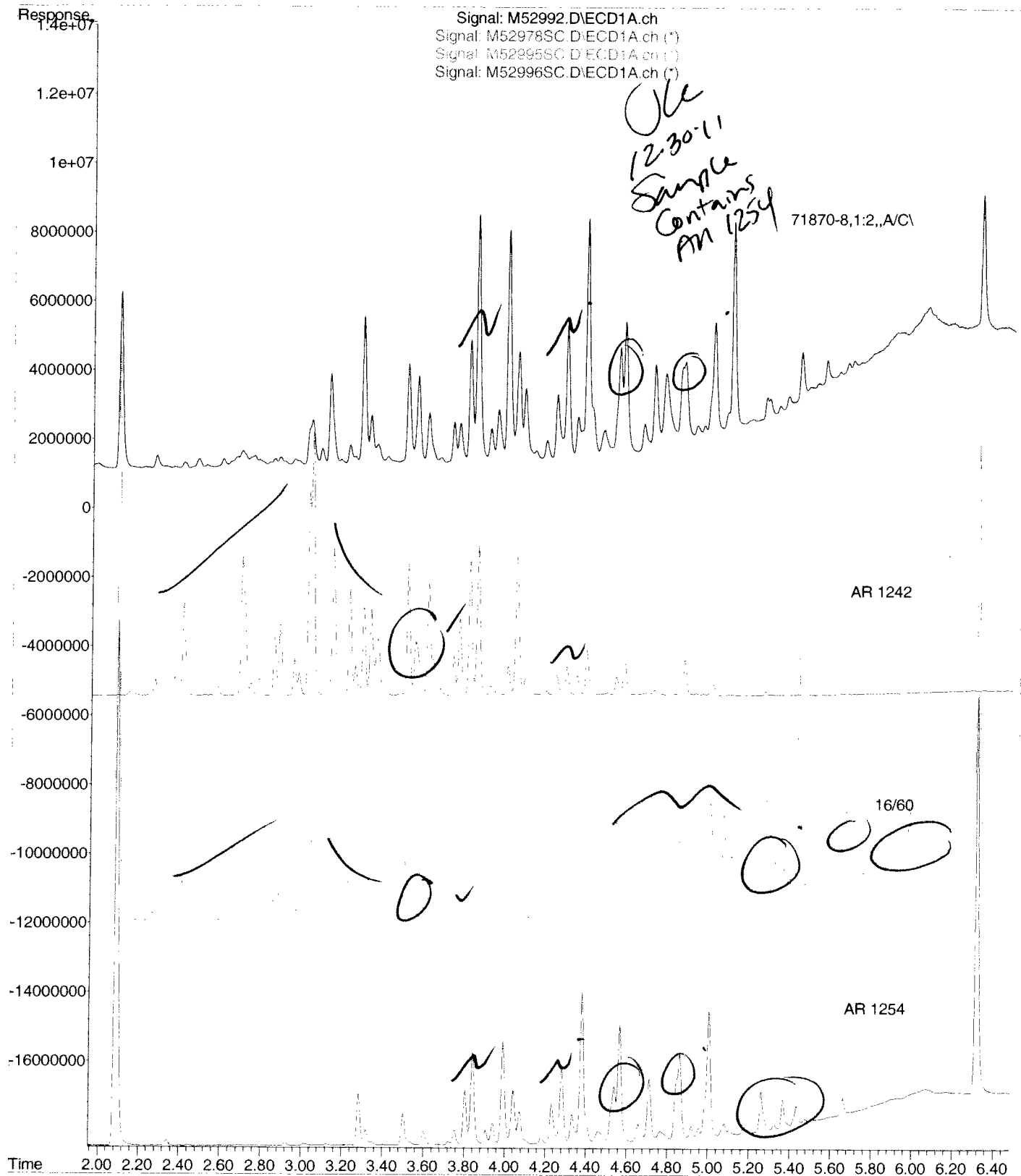
Data Path : C:\msdchem\1\DATA\122911-M\  
Data File : M52992.D  
Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch  
Acq On : 29 Dec 2011 4:10 pm  
Operator : JK  
Sample : 71870-8,1:2,,A/C  
Misc : SOIL  
ALS Vial : 20 Sample Multiplier: 1

Integration File signal 1: events.e  
Integration File signal 2: events2.e  
Quant Time: Dec 30 13:45:25 2011  
Quant Method : C:\msdchem\1\METHODS\PCB122711.M  
Quant Title : SW-846 METHOD 8082 Aroclor 1016/1260/1254  
QLast Update : Wed Dec 28 10:19:28 2011  
Response via : Initial Calibration  
Integrator: ChemStation

Volume Inj. : 2 uL  
Signal #1 Phase : STX-CLPPesticides Signal #2 Phase: STX-CLPPesticides  
Signal #1 Info : 30 m x 0.25mm x 0.25 um Signal #2 Info : 30 m x 0.25mm x 0.25 um



File :C:\msdchem\1\DATA\122911-M\M52992.D  
Operator : JK  
Acquired : 29 Dec 2011 4:10 pm using AcqMethod PCB.M  
Instrument : Instrument M  
Sample Name: 71870-8,1:2,,A/C  
Misc Info : SOIL  
Vial Number: 20



## PCB QC FORMS



PCB SOIL  
LABORATORY CONTROL SAMPLE/DUPLICATE  
PERCENT RECOVERY

Instrument ID: M

GC Column #1: STX-CLPesticides I

Column ID: 0.25 mm

GC Column #2: STX-CLPesticides II

Column ID: 0.25 mm

SDG: 71870

Non-spiked sample: B122711PSOX,,A/C

Spike: L122711PSOX,,A/C

Spike duplicate: LD122711PSOX,,A/C

	LCS SPIKE	LCSD SPIKE	LOWER	UPPER	RPD	NON-SPIKE	SPIKE	SPIKE		SPIKE DUP		SPIKE DUP			
COMPOUND	ADDED (ug/kg)	ADDED (ug/kg)	LIMIT	LIMIT	LIMIT	RESULT (ug/kg)	RESULT (ug/kg)	% REC	#	RESULT (ug/kg)	% REC	#	RPD	#	
PCB 1016	200	200	65	140	30	0	173	87		174	87		0.5		
PCB 1260	200	200	60	130	30	0	182	91		175	88		3.9		
PCB 1016 #2	200	200	65	140	30	0	194	97		185	93		4.6		
PCB 1260 #2	200	200	60	130	30	0	209	105		191	95		9.4		

# Column to be used to flag recovery and RPD values outside of QC limits

\* Values outside QC limits

LCS/LCSD spike added values have been weight adjusted.

Non-spiked result of "0" used in place of "U" to allow calculation of spike recovery.

Comments: \_\_\_\_\_  
\_\_\_\_\_



## CHAIN OF CUSTODIES

# Chain Of Custody Form

<b>environmental laboratory LLC</b> 195 Commerce Way Suite E Portsmouth, NH 03801 Phone (603) 436-5111 Fax (603) 430-2151		<b>For Analytics Use Only</b> Rev. 4.03/28/08	
Project# 210980 Proj. Name: <u>Peabody Terrace</u> Company: <u>Woodard &amp; Curran</u> Contact: <u>Amy Wallace</u> Address: <u>41 Hutchins Drive</u> <u>Portland Maine</u> Phone: <u>207-774-2112</u> PO# _____ Quote # _____ Sampler (Signature): <u>Amy Wallace</u>		Samples were: 1) Shipped or hand-delivered 2) Temp blank °C <u>22.5</u> <u>no ice</u> 3) Received in good condition <u>Y</u> or N 4) pH checked by: <u>N/A</u> 5) Labels checked by: <u>JB 12/23/11</u>	
Matrix Key: C = Concrete WP = Wipe WW = Wastewater SW = Surface Water GW = Groundwater DW = Drinking Water S = Soil/Sediment O = Oil E = Extract X = Other		Container Key P = plastic G = glass	
Preservation Unpres <input type="checkbox"/> H <sub>2</sub> O <sub>2</sub> <input type="checkbox"/> HCl <input type="checkbox"/> Methanol <input type="checkbox"/> Other <input type="checkbox"/>		pH Analytics Sample #	
Station Identification	Sample Date	Sample Time	Analysis
PTD-CBK-DC01-2015	12/22/11	1915	PCBs
PTD-CBK-DC01-2016	12/22/11	1920	PCBs
PTD-CBK-DC01-2018		1940	
PTD-CBK-DC02-2019		1950	
PTD-CBK-DC03-2020		2000	
PTD-CBK-DC02-2021		2002	
PTD-CBK-PR01-2022		2010	
PTD-CBK-PR01-2023	12/22/11	2016	PCBs
Email Results to: <u>shane@woodardcurran.com</u> <u>AWallace@</u> <u>JB Russell@</u>		Project Requirements: Report Type: <input checked="" type="checkbox"/> MCP <input type="checkbox"/> CTCR <input type="checkbox"/> DOD <input type="checkbox"/> Standard Level I <input checked="" type="checkbox"/> Level II <input type="checkbox"/> Level III <input type="checkbox"/> Level IV <input type="checkbox"/> Standard State: <input type="checkbox"/> NH <input checked="" type="checkbox"/> MA <input type="checkbox"/> ME <input type="checkbox"/> CT <input type="checkbox"/> RI State Standard: (eg. S-1 or GW-1) EDD Required: Y* N GIS Key Type: _____	
Turnaround Request Standard <input checked="" type="checkbox"/> Priority <input type="checkbox"/> Due Date <u>5 Dec 11</u> Due Date _____		Date: _____ Time: _____ Received By: _____ Date: _____ Time: _____ Received By: _____ Date: _____ Time: _____ Received By: _____	
Lab Approval Required _____		Page 1 of 1	

ANALYTICS SAMPLE RECEIPT CHECKLIST

AEL LAB#: 71870  
 CLIENT: Woodard & Curran  
 PROJECT: Peabody Terrace

COOLER NUMBER: 1  
 NUMBER OF COOLERS: 267

**A: PRELIMINARY EXAMINATION:**

1. Cooler received by (initials): JML DATE COOLER RECEIVED/OPENED: 12/22/11
2. Circle one: ☒ Hand delivered (If so, skip 3) ☐ Shipped
3. Did cooler come with a shipping slip? Y ☒ NA
- 3a. Enter carrier name and airbill number here: \_\_\_\_\_
4. Were custody seals on the outside of cooler?  
 How many & where: \_\_\_\_\_ Seal Date: \_\_\_\_\_ Seal Name: \_\_\_\_\_ Y ☒ N
5. Did the custody seals arrive unbroken and intact upon arrival? Y ☒ NA
6. COC#: N/A
7. Were Custody papers filled out properly (ink, signed, legible, project information etc)? ☒ Y ☐ N
8. Were custody papers sealed in a plastic bag? Y ☒ N
9. Did you sign the COC in the appropriate place? ☒ Y ☐ N
10. Was enough ice used to chill the cooler? Y ☒ N/A Temp. of cooler: 22.5

**B. Log-In:** Date samples were logged in: 12-22-11 By: JML

11. Were all bottles sealed in separate plastic bags? Y ☒ N
12. Did all bottles arrive unbroken and were labels in good condition? ☒ Y ☐ N
13. Were all bottle labels complete (ID, Date, time, etc.) ☒ Y ☐ N
14. Did all bottle labels agree with custody papers? ☒ Y ☐ N
15. Were the correct containers used for the tests indicated: ☒ Y ☐ N
16. Were samples received at the correct pH? Y ☒ NA
17. Was sufficient amount of sample sent for the tests indicated? ☒ Y ☐ N
18. Were all samples submitted within holding time? ☒ Y ☐ N
19. Were bubbles absent in VOA samples? Y ☒ NA

If NO, List Sample ID's, Lab #s, and the size of the bubble(s): \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

\*When bubbles are present in VOA samples they are labelled from smallest (or no bubbles) to largest. Lab to analyze VOA samples with no bubbles or smallest bubbles first

20. Laboratory labeling verified by (initials): [Signature] Date: 12/23/11

From: Kate Zaleski <kzaleski@analyticslab.com>  
Subject: **Peabody Terrace samples received 12/22/11 (71870 and 71871)**  
Date: December 23, 2011 1:04:54 PM EST  
To: Amy Wallace <awallace@woodardcurran.com>  
▶ 1 Attachment, 29.9 KB

Hi Amy,

Attached is a Non-Compliance notification for the samples received last night due to lack of ice and/or temperature greater than 6C. We will continue with analysis unless we hear from you otherwise.

Thanks,  
Kate



environmental  
laboratory LLC

**SAMPLE RECEIPT  
NON-COMPLIANCE NOTIFICATION  
(SENT VIA FACSIMILE)**

DATE 12-23-11

FROM Sample Receipt

FAX CONTACT Amy Wallace

FAX NUMBER \_\_\_\_\_

CLIENT Woodard Curran

LAB NUMBER 71870 / 71871

The exceptions noted below were found on the sample(s) received on the attached Chain of Custody (COC) form. These exceptions may render the data results as non-defensible. Analytics will continue to proceed with the analysis of the sample(s) unless notified in writing to stop the analysis. This document may become part of the final report.

Please check the appropriate box and sign below and fax back to "Sample Receipt" at 603-430-2151.

**Exceptions:**

- ☒ Sample(s) not on ice or not at  $4^{\circ}\text{C} \pm 2^{\circ}\text{C}$  22-5°C
- ☐ Sample(s) received unpreserved or not at the proper pH.  
(pH was adjusted at the laboratory)
- ☐ Sample(s) received in incorrect containers
- ☐ Insufficient sample volume received  
(Detection limits may be elevated due to this exception)
- ☐ Trip Blank provided in cooler, but not recorded on the chain of custody
- ☐ Other: \_\_\_\_\_

**Acknowledgment:**

- ☐ Please do not analyze/report Trip Blank, proceed with other analyses
- ☐ Proceed with the analysis.
- ☐ Please stop the analysis and wait for further instructions.

Signed: \_\_\_\_\_ Print Name: \_\_\_\_\_

January 18, 2012

Ms. Amy Wallace  
Woodard & Curran  
41 Hutchins Drive  
Portland ME 04102

**RE: Analytical Results Case Narrative  
Analytics # 71978  
Peabody Terrace Project No: 210980**

Dear Ms. Wallace;

Enclosed please find the analytical results for samples submitted for the above-mentioned project. The attached Cover Page lists the sample IDs, Lab tracking numbers and collection dates for the samples included in this deliverable.

Samples were analyzed for Polychlorinated Biphenyls (PCBs) by EPA Method 8082.

Unless otherwise noted in the Non-conformance Summary listed below, all of the quality control (QC) criteria including initial calibration, calibration verification, surrogate recovery, holding time and method accuracy/precision for these analyses were within acceptable limits.

This Level II data package has been assembled in the following order:

- Case Narrative/Non-Conformance Summary
- Sample Log Sheet - Cover Page
- PCB Form 1 Data Sheet for Samples and Blanks
- Chromatograms
- PCB Form 10 Confirmation Results
- PCB Form 3 MS/MSD (LCS) Recoveries
- Chain of Custody (COC) Forms

## QC NON-CONFORMANCE SUMMARY

**Sample Receipt:**

No exceptions.

**PCBs by EPA Method 8082:**

No results were reported below the quantitation limit.

Two samples 71978-3 and 71978-9 had no surrogate added to the samples prior to extraction due to the laboratory error. Results were reported with a comment to this affect.

Samples 71978-1 and 71978-11 required dilution due to concentrations of PCBs that exceeded the calibration range of the instrument.

The reanalysis of the laboratory blank (B011112PSOX RR) had low level PCB 1254 detected. The samples associated with this blank had results in the sample greater than 10X the level detected in the blank. Results were reported without qualification.

The laboratory control sample (L011112PSOX) had some low recoveries. The laboratory control sample duplicate (LD011112PSOX) and the batch MS/MSD were in control for all analytes. Results were reported without qualification.

If you have any questions on these results, please do not hesitate to contact me.

Sincerely,  
ANALYTICS Environmental Laboratory, LLC



Stephen L. Knollmeyer  
Laboratory Director

Ms. Amy Wallace  
Woodard & Curran  
41 Hutchins Drive  
Portland ME 04102

**Report Number: 71978**

**Revision: Rev. 0**

**Re: Peabody Terrace (Project No: 210980)**

Enclosed are the results of the analyses on your sample(s). Samples were received on 11 January 2012 and analyzed for the tests listed. Samples were received in acceptable condition, with the exceptions noted below or on the chain of custody. These results pertain to samples as received by the laboratory and for the analytical tests requested on the chain of custody. The results reported herein conform to the most current NELAC standards, where applicable, unless otherwise narrated in the body of the report. Please see individual reports for specific methodologies and references.

**Sample Analysis:** The attached pages detail the Client Sample IDs, Lab Sample IDs, and Analyses requested

**Sample Receipt Exceptions:** None

Analytics Environmental Laboratory is certified by the states of New Hampshire, Maine, Massachusetts, Connecticut, Rhode Island, Virginia, Maryland, North Carolina, and is accredited by the Department of Defense (DOD) ELAP program. A list of actual certified parameters is available upon request.

If you have any questions on these results, please do not hesitate to contact us.

Authorized signature

  
Stephen L. Knollmeyer Lab. Director

Date

1/18/2012

**This report shall not be reproduced, except in full, without the written consent of Analytics Environmental Laboratory, LLC.**

**CLIENT: Woodard & Curran**

**REPORT NUMBER: 71978**

**REV: Rev. 0**

**PROJECT: Peabody Terrace (Project No: 210980)**

<u>Lab Number</u>	<u>Sample Date</u>	<u>Station Location</u>	<u>Analysis</u>	<u>Comments</u>
71978-1	01/11/12	PTD-CBK-632-2030	EPA 8082 (PCBs only)	
71978-2	01/11/12	PTD-CWK-632-2031	EPA 8082 (PCBs only)	
71978-3	01/11/12	PTD-CWK-632-2032	EPA 8082 (PCBs only)	
71978-4	01/11/12	PTD-CWT-632-2033	EPA 8082 (PCBs only)	
71978-5	01/11/12	PTD-CWTD-632-2034	EPA 8082 (PCBs only)	
71978-6	01/11/12	PTD-CWW-632-2035	EPA 8082 (PCBs only)	
71978-7	01/11/12	PTD-CWM-632-2036	EPA 8082 (PCBs only)	
71978-8	01/11/12	PTZ-CWK-121-2038	EPA 8082 (PCBs only)	
71978-9	01/11/12	PTZ-CWK-121-2039	EPA 8082 (PCBs only)	
71978-10	01/11/12	PTZ-CWKD-121-2040	EPA 8082 (PCBs only)	
71978-11	01/11/12	PTZ-CBK-121-2041	EPA 8082 (PCBs only)	
71978-12	01/11/12	PTZ-CWT-121-2042	EPA 8082 (PCBs only)	
71978-13	01/11/12	PTZ-CWW-121-2043	EPA 8082 (PCBs only)	
71978-14	01/11/12	PTZ-CWM-121-2044	EPA 8082 (PCBs only)	
71978-15	01/11/12	PTZ-CWKQ-121-2047	Electronic Data Deliverable	
	01/11/12	PTZ-CWKQ-121-2047	EPA 8082 (PCBs only)	



### MassDEP Analytical Protocol Certification Form

Laboratory Name: Analytics Environmental Laboratory, LLC

Project #: 71978

Project Location: Peabody Terrace

RTN:

**This Form provides certifications for the following data set. Laboratory Sample ID Number(s):**

71978-1 through 71978-15

Matrices: ☐ Groundwater/Surface Water ☐ Soil/Sediment ☐ Drinking Water ☐ Air ☒ Other

**CAM Protocol** (check all that apply below):

8260 VOC CAM II A <input type="checkbox"/>	7470/7471 Hg CAM III B <input type="checkbox"/>	MassDEP VPH CAM IV A <input type="checkbox"/>	8081 Pesticides CAM V B <input type="checkbox"/>	7196 Hex Cr CAM VI B <input type="checkbox"/>	MassDEP APH CAM IX A <input type="checkbox"/>
8270 SVOC CAM II B <input type="checkbox"/>	7010 Metals CAM III C <input type="checkbox"/>	MassDEP EPH CAM IV B <input type="checkbox"/>	8151 Herbicides CAM V C <input type="checkbox"/>	8330 Explosives CAM VIII A <input type="checkbox"/>	TO-15 VOC CAM IX B <input type="checkbox"/>
6010 Metals CAM III A <input type="checkbox"/>	6020 Metals CAM III D <input type="checkbox"/>	8082 PCB CAM V A <input checked="" type="checkbox"/>	9014 Total Cyanide/PAC CAM VI A <input type="checkbox"/>	6860 Perchlorate CAM VIII B <input type="checkbox"/>	

**Affirmative Responses to Questions A through F are required for "Presumptive Certainty" status**

<b>A</b>	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
<b>B</b>	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
<b>C</b>	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
<b>D</b>	Does the laboratory report comply with all reporting requirements specified in CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data"?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
<b>E</b>	a. VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? (Refer to individual method(s) for a list of significant modifications). b. APH and TO-15 Methods only: Was the complete analyte list reported for each method?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Yes <input type="checkbox"/> No
<b>F</b>	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No

**Responses to Questions G, H and I below are required for "Presumptive Certainty" status**

<b>G</b>	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <sup>1</sup>
----------	---	--

**Data User Note: Data that achieve "Presumptive Certainty" status may not necessarily meet the data usability and representativeness requirements described in 310 CMR 40.1056 (2)(k) and WSC-07-350.**

<b>H</b>	Were ALL QC performance standards specified in the CAM protocol(s) achieved?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <sup>1</sup>
<b>I</b>	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <sup>1</sup>

<sup>1</sup> All negative responses must be addressed in an attached laboratory narrative.

**I, the undersigned, attest under the pains and penalties of perjury that, based upon my personal inquiry of those responsible for obtaining the information, the material contained in this analytical report is, to the best of my knowledge and belief, accurate and complete.**

Signature:  Position: Laboratory Director

Printed Name: Stephen L. Knollmeyer

Date: January 18, 2012

### Surrogate Compound Limits

	Matrix: Units:	Aqueous % Recovery	Solid % Recovery	Method
<b>Volatile Organic Compounds - Drinking Water</b>				
1,4-Difluorobenzene		70-130		EPA 524.2
Bromofluorobenzene		70-130		
1,2-Dichlorobenzene-d4		70-130		
<b>Volatile Organic Compounds</b>				
1,2-Dichloroethane-d4		70-120	70-120	EPA 624/8260B
Toluene-d8		85-120	85-120	
Bromofluorobenzene		75-120	75-120	
<b>Semi-Volatile Organic Compounds</b>				
2-Fluorophenol		20-110	35-105	EPA 625/8270C
d5-Phenol		15-110	40-100	
d5-nitrobenzene		40-110	35-100	
2-Fluorobiphenyl		50-110	45-105	
2,4,6-Tribromophenol		40-110	40-125	
d14-p-terphenyl		50-130	30-125	
<b>PAH's by SIM</b>				
d5-nitrobenzene		21-110	35-110	EPA 8270C
2-Fluorobiphenyl		36-121	45-105	
d14-p-terphenyl		33-141	30-125	
<b>Pesticides and PCBs</b>				
2,4,5,6-Tetrachloro-m-xylene (TCX)		46-122	40-130	EPA 608/8082
Decachlorobiphenyl (DCB)		40-135	40-130	
<b>Herbicides</b>				
Dichloroacetic acid (DCAA)		30-150	30-150	
<b>Gasoline Range Organics/TPH Gasoline</b>				
Trifluorotoluene TFT (FID)		60-140	60-140	MEDEP 4217/EPA 8015
Bromofluorobenzene (BFB) (FID)		60-140	60-140	
Trifluorotoluene TFT (PID)		60-140	60-140	
Bromofluorobenzene (BFB) (PID)		60-140	60-140	
<b>Diesel Range Organics/TPH Diesel</b>				
m-terphenyl		60-140	60-140	MEDEP 4125/EPA 8015/CT ETPH
<b>Volatile Petroleum Hydrocarbons</b>				
2,5-Dibromotoluene (PID)		70-130	70-130	MADEP VPH May 2004 Rev1.1
2,5-Dibromotoluene (FID)		70-130	70-130	
<b>Extracatable Petroleum Hydrocarbons</b>				
1-chloro-octadecane (aliphatic)		40-140	40-140	MADEP EPH May 2004 Rev1.1
o-Terphenyl (aromatic)		40-140	40-140	
2-Fluorobiphenyl (Fractionation)		40-140	40-140	
2-Bromonaphthalene (fractionation)		40-140	40-140	

## PCB DATA SUMMARIES

Ms. Amy Wallace  
Woodard & Curran  
41 Hutchins Drive  
Portland ME 04102

January 18, 2012

**SAMPLE DATA**

**CLIENT SAMPLE ID**  
**Project Name:** Peabody Terrace  
**Project Number:** 210980  
**Field Sample ID:** Lab QC

**Lab Sample ID:** B011112PSOX  
**Matrix:** Soil  
**Percent Solid:** 100  
**Dilution Factor:** 1.0  
**Collection Date:**  
**Lab Receipt Date:**  
**Extraction Date:** 01/11/12  
**Analysis Date:** 01/12/12

**PCB ANALYTICAL RESULTS**

COMPOUND	Quantitation Limit $\mu\text{g/kg}$	Results $\mu\text{g/kg}$
PCB-1016	33	U
PCB-1221	33	U
PCB-1232	33	U
PCB-1242	33	U
PCB-1248	33	U
PCB-1254	33	U
PCB-1260	33	U
PCB-1262	33	U
PCB-1268	33	U
<b><u>Surrogate Standard Recovery</u></b>		
2,4,5,6-Tetrachloro-m-xylene	59	%
Decachlorobiphenyl	43	%
U=Undetected J=Estimated E=Exceeds Calibration Range B=Detected in Blank		

**METHODOLOGY:** Sample analysis conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 8082.  
Sample preparation conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 3540C.  
Sample cleanup was conducted according to SW-846 Method 3665A.

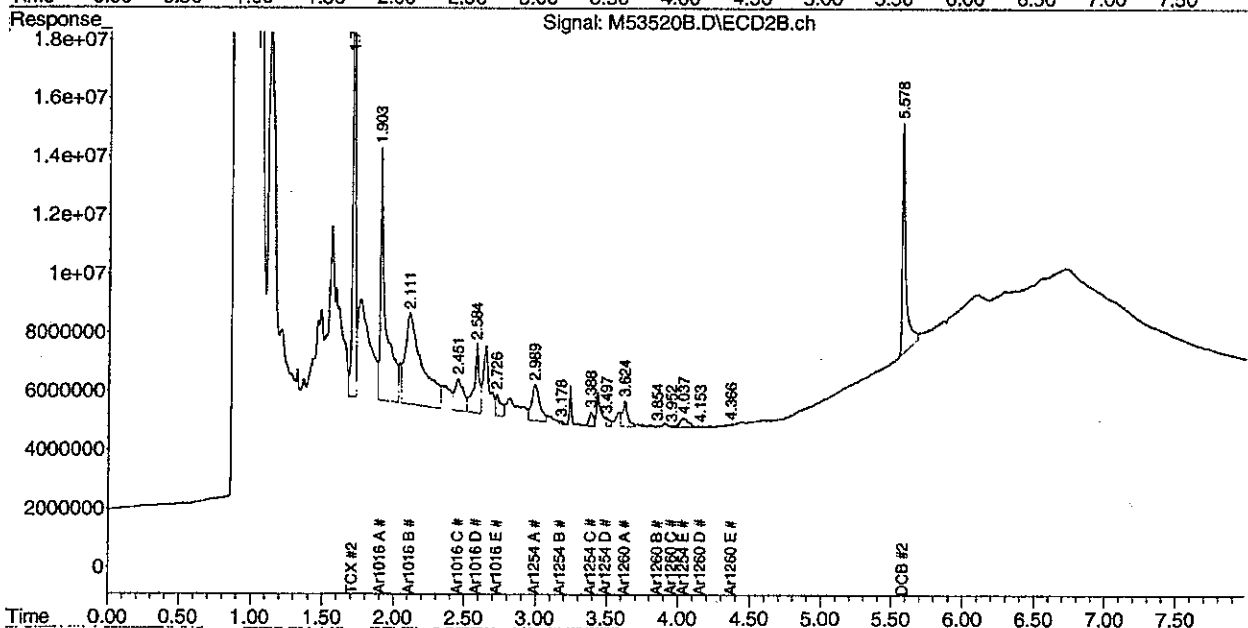
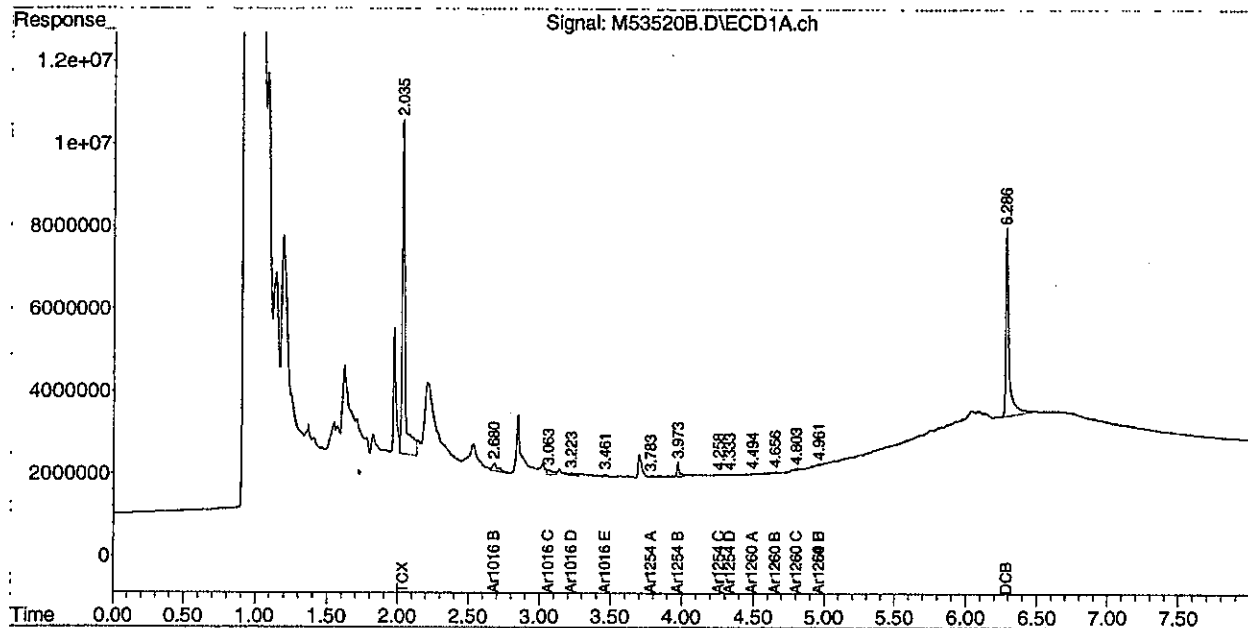
**COMMENTS:** Results are expressed on a dry weight basis.



Data Path : C:\msdchem\1\DATA\011212-M\  
 Data File : M53520B.D  
 Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch  
 Acq On : 12 Jan 2012 3:23 pm  
 Operator : JK  
 Sample : B011112PSOX  
 Misc : SOIL  
 ALS Vial : 6 Sample Multiplier: 1

Integration File signal 1: events.e  
 Integration File signal 2: events2.e  
 Quant Time: Jan 12 21:32:09 2012  
 Quant Method : C:\msdchem\1\METHODS\PCB011112.M  
 Quant Title : SW-846 METHOD 8082 Aroclor 1016/1260/1254  
 QLast Update : Thu Jan 12 12:04:45 2012  
 Response via : Initial Calibration  
 Integrator: ChemStation

Volume Inj. : 2 uL  
 Signal #1 Phase : STX-CLPPesticides Signal #2 Phase: STX-CLPPesticides  
 Signal #1 Info : 30 m x 0.25mm x 0.25 um Signal #2 Info : 30 m x 0.25mm x 0.25 um



Ms. Amy Wallace  
Woodard & Curran  
41 Hutchins Drive  
Portland ME 04102

January 18, 2012

**SAMPLE DATA**

**CLIENT SAMPLE ID**

**Project Name:** Peabody Terrace

**Project Number:** 210980

**Field Sample ID:** Lab QC

**Lab Sample ID:** B011112PSOXW

**Matrix:** Wipe

**Percent Solid:** N/A

**Dilution Factor:** 1.0

**Collection Date:**

**Lab Receipt Date:**

**Extraction Date:** 01/11/12

**Analysis Date:** 01/13/12

**PCB ANALYTICAL RESULTS**

COMPOUND	Quantitation Limit $\mu\text{g/wipe}$	Results $\mu\text{g/wipe}$
PCB-1016	0.5	U
PCB-1221	0.5	U
PCB-1232	0.5	U
PCB-1242	0.5	U
PCB-1248	0.5	U
PCB-1254	0.5	U
PCB-1260	0.5	U
PCB-1262	0.5	U
PCB-1268	0.5	U
<b>Surrogate Standard Recovery</b>		
2,4,5,6-Tetrachloro-m-xylene	80	%
Decachlorobiphenyl	89	%
U=Undetected J=Estimated E=Exceeds Calibration Range B=Detected in Blank		

**METHODOLOGY:** Sample analysis conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 8082.  
Sample preparation conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 3540C.  
Sample cleanup was conducted according to SW-846 Method 3665A.

**COMMENTS:**

PCB EXT Report

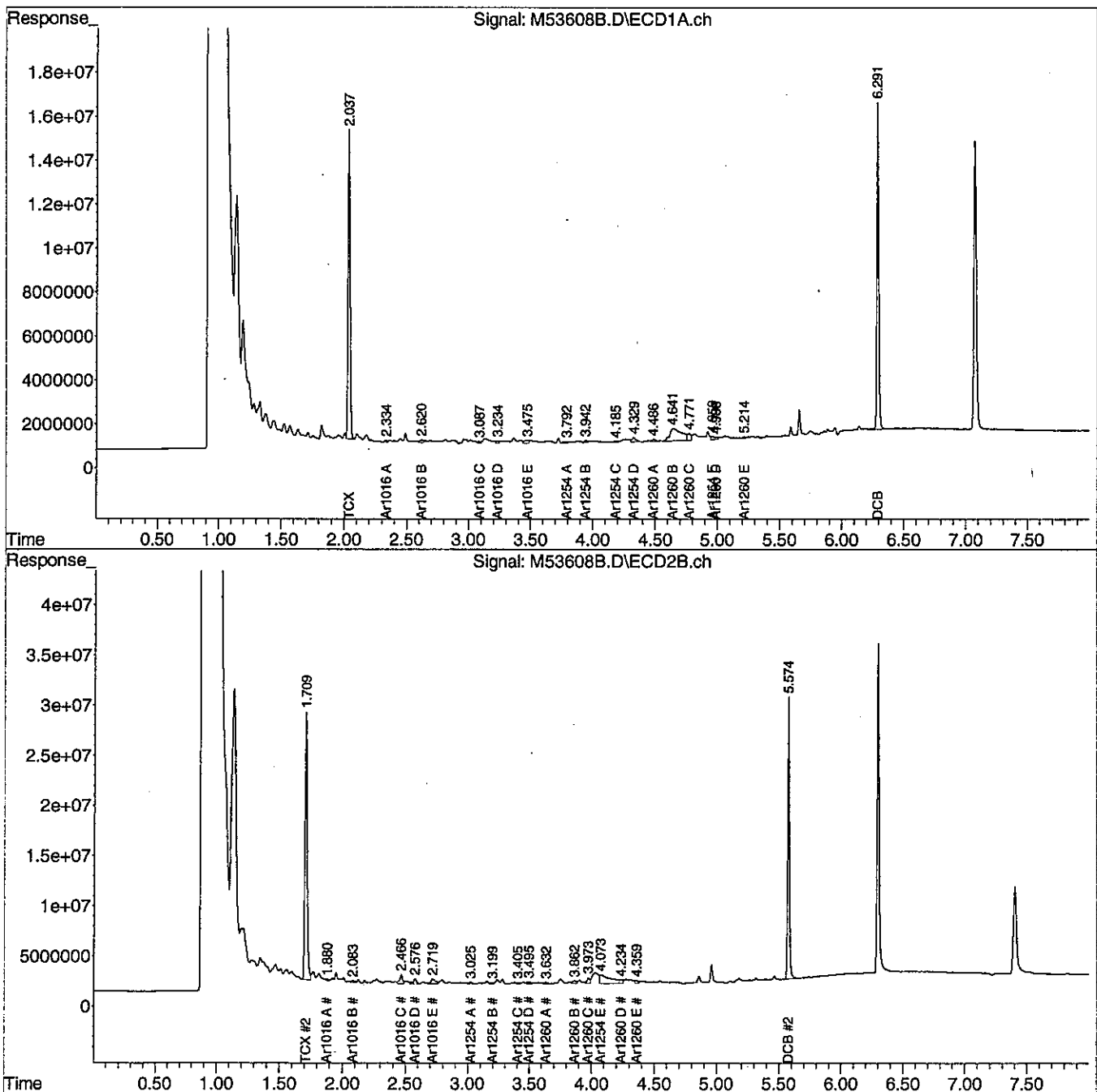
Authorized signature

*M. J. Bull*

Data Path : C:\msdchem\1\DATA\011312-M\  
Data File : M53608B.D  
Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch  
Acq On : 13 Jan 2012 1:50 pm  
Operator : JL  
Sample : B011112PSOXW  
Misc : SOIL  
ALS Vial : 15 Sample Multiplier: 1

Integration File signal 1: events.e  
Integration File signal 2: events2.e  
Quant Time: Jan 14 03:23:35 2012  
Quant Method : C:\msdchem\1\METHODS\PCB011112.M  
Quant Title : SW-846 METHOD 8082 Aroclor 1016/1260/1254  
QLast Update : Thu Jan 12 21:49:46 2012  
Response via : Initial Calibration  
Integrator: ChemStation

Volume Inj. : 2 uL  
Signal #1 Phase : STX-CLPPesticides Signal #2 Phase: STX-CLPPesticides  
Signal #1 Info : 30 m x 0.25mm x 0 Signal #2 Info : 30 m x 0.25mm x 0.25 um



Ms. Amy Wallace  
Woodard & Curran  
41 Hutchins Drive  
Portland ME 04102

January 17, 2012

**SAMPLE DATA**

**CLIENT SAMPLE ID**

**Project Name:** Peabody Terrace  
**Project Number:** 210980  
**Field Sample ID:** Lab QC

**Lab Sample ID:** B011112PSOX RR  
**Matrix:** Soil  
**Percent Solid:** 100  
**Dilution Factor:** 1.0  
**Collection Date:**  
**Lab Receipt Date:**  
**Extraction Date:** 01/11/12  
**Analysis Date:** 01/17/12

**PCB ANALYTICAL RESULTS**

COMPOUND	Quantitation Limit µg/kg	Results µg/kg
PCB-1016	33	U
PCB-1221	33	U
PCB-1232	33	U
PCB-1242	33	U
PCB-1248	33	U
PCB-1254	33	50
PCB-1260	33	U
PCB-1262	33	U
PCB-1268	33	U
<b><u>Surrogate Standard Recovery</u></b>		
2,4,5,6-Tetrachloro-m-xylene	65	%
Decachlorobiphenyl	91	%
U=Undetected J=Estimated E=Exceeds Calibration Range B=Detected in Blank		

**METHODOLOGY:** Sample analysis conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 8082.  
Sample preparation conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 3540C.  
Sample cleanup was conducted according to SW-846 Method 3665A.

**COMMENTS:** Results are expressed on a dry weight basis.





PCB  
COLUMN RELATIVE PERCENT DIFFERENCE

Instrument ID: M

SDG: 71978

GC Column #1: STX-CLPesticides I

Sample: B011112PSOX,RR,,A/C

Column ID: 0.25 mm

Data File: M53720B.D

GC Column #2: STX-CLPesticides II

Dilution Factor: 1.0

Column ID: 0.25 mm

COMPOUND	Column #1	Column #2		
	SAMPLE RESULT (ug/kg)	SAMPLE RESULT (ug/kg)	RPD	#
PCB 1254	50	47	4.8	

# Column to be used to flag RPD values greater than QC limit of 40%

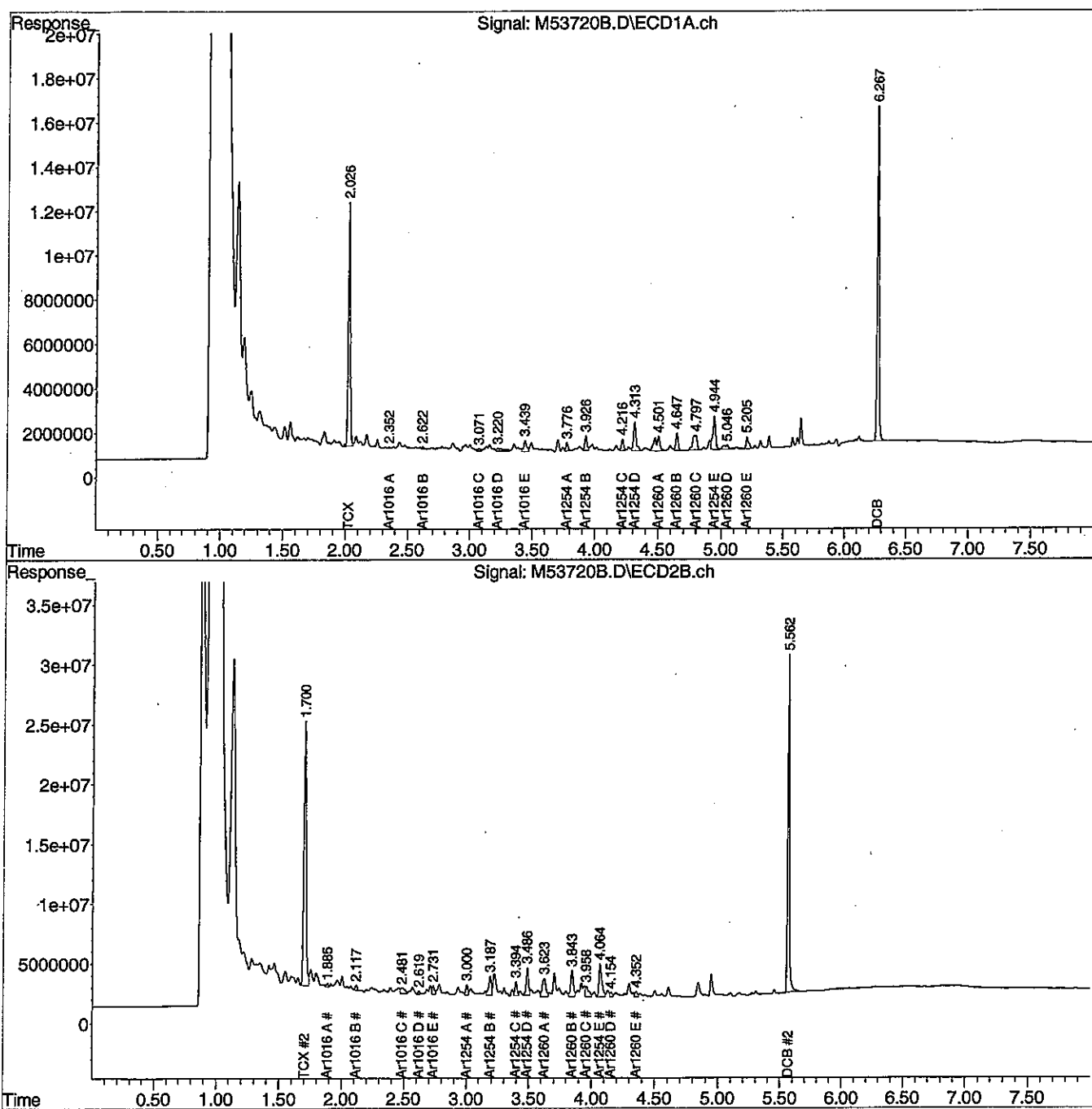
\* Values outside QC limits

Comments: \_\_\_\_\_

Data Path : C:\msdchem\1\DATA\011712-M\  
Data File : M53720B.D  
Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch  
Acq On : 17 Jan 2012 1:10 pm  
Operator : JK  
Sample : B011112PSOX,RR,,A/C  
Misc : SOIL  
ALS Vial : 6 Sample Multiplier: 1

Integration File signal 1: events.e  
Integration File signal 2: events2.e  
Quant Time: Jan 17 15:21:44 2012  
Quant Method : C:\msdchem\1\METHODS\PCB011112.M  
Quant Title : SW-846 METHOD 8082 Aroclor 1016/1260/1254  
QLast Update : Thu Jan 12 21:49:48 2012  
Response via : Initial Calibration  
Integrator: ChemStation

Volume Inj. : 2 uL  
Signal #1 Phase : STX-CLPPesticides Signal #2 Phase: STX-CLPPesticides  
Signal #1 Info : 30 m x 0.25mm x 0 Signal #2 Info : 30 m x 0.25mm x 0.25 um



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January 17, 2012

**SAMPLE DATA**

**CLIENT SAMPLE ID**

**Project Name:** Peabody Terrace  
**Project Number:** 210980  
**Field Sample ID:** PTD-CBK-632-2030

**Lab Sample ID:** 71978-1  
**Matrix:** Solid  
**Percent Solid:** 99  
**Dilution Factor:** 890  
**Collection Date:** 01/11/12  
**Lab Receipt Date:** 01/11/12  
**Extraction Date:** 01/11/12  
**Analysis Date:** 01/17/12

**PCB ANALYTICAL RESULTS**

COMPOUND	Quantitation Limit µg/kg	Results µg/kg
PCB-1016	29400	U
PCB-1221	29400	U
PCB-1232	29400	U
PCB-1242	29400	U
PCB-1248	29400	U
PCB-1254	29400	498000
PCB-1260	29400	U
PCB-1262	29400	U
PCB-1268	29400	U
<b><u>Surrogate Standard Recovery</u></b>		
2,4,5,6-Tetrachloro-m-xylene	*	%
Decachlorobiphenyl	*	%
U=Undetected J=Estimated E=Exceeds Calibration Range B=Detected in Blank		

**METHODOLOGY:** Sample analysis conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 8082.  
Sample preparation conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 3540C.  
Sample cleanup was conducted according to SW-846 Method 3665A.

**COMMENTS:** Results are expressed on a dry weight basis.  
\* The surrogates were diluted out.

PCB EXT Report

Authorized signature

*Angelina Richard*

PCB  
COLUMN RELATIVE PERCENT DIFFERENCE

Instrument ID: M

SDG: 71978

GC Column #1: STX-CLPesticides I

Sample: 71978-1,1:100,,A/C

Column ID: 0.25 mm

Data File: M53724.D

GC Column #2: STX-CLPesticides II

Dilution Factor: 889.8

Column ID: 0.25 mm

Column #1		Column #2		#
COMPOUND	SAMPLE RESULT (ug/kg)	SAMPLE RESULT (ug/kg)	RPD	
PCB 1254	458145	497943	8.3	

# Column to be used to flag RPD values greater than QC limit of 40%

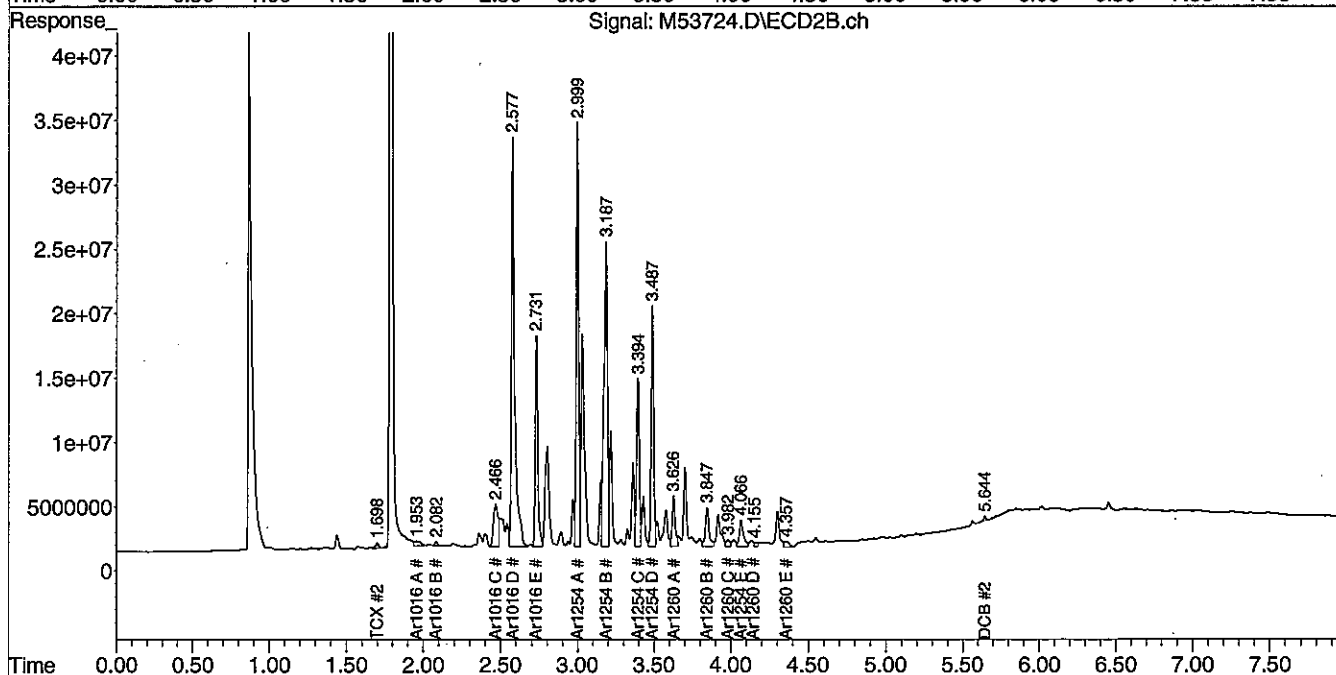
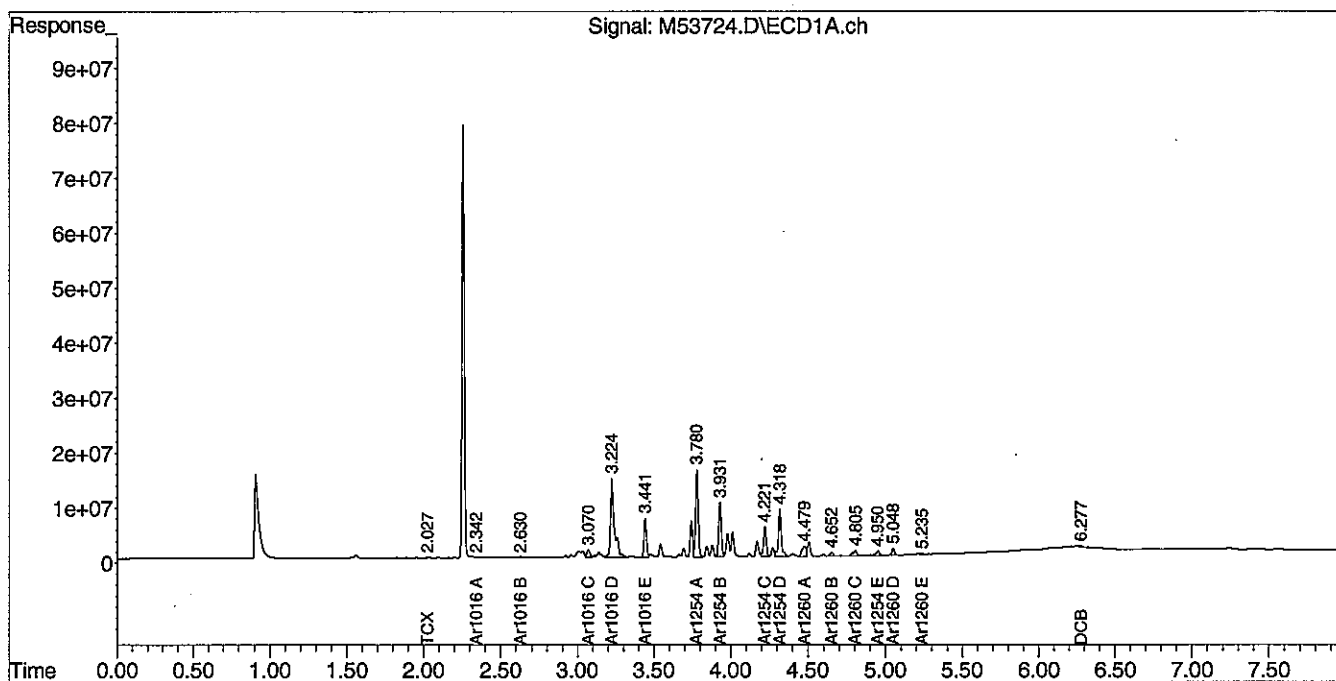
\* Values outside QC limits

Comments: \_\_\_\_\_

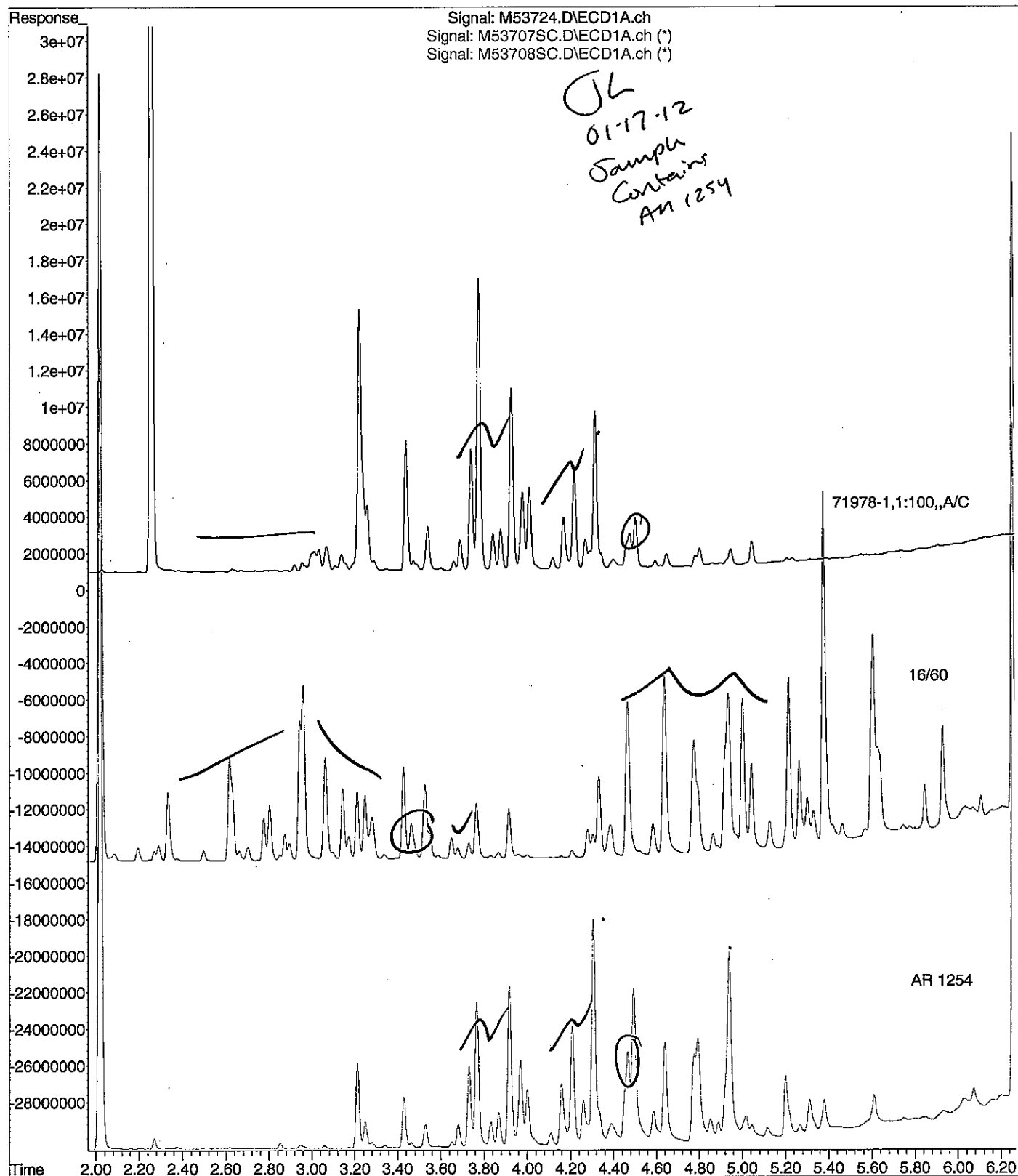
Data Path : C:\msdchem\1\DATA\011712-M\  
Data File : M53724.D  
Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch  
Acq On : 17 Jan 2012 2:04 pm  
Operator : JK  
Sample : 71978-1,1:100,,A/C  
Misc : SOIL  
ALS Vial : 10 Sample Multiplier: 1

Integration File signal 1: events.e  
Integration File signal 2: events2.e  
Quant Time: Jan 17 14:18:36 2012  
Quant Method : C:\msdchem\1\METHODS\PCB011112.M  
Quant Title : SW-846 METHOD 8082 Aroclor 1016/1260/1254  
QLast Update : Thu Jan 12 21:49:48 2012  
Response via : Initial Calibration  
Integrator: ChemStation

Volume Inj. : 2 uL  
Signal #1 Phase : STX-CLPPesticides Signal #2 Phase: STX-CLPPesticides  
Signal #1 Info : 30 m x 0.25mm x 0.25 um Signal #2 Info : 30 m x 0.25mm x 0.25 um



File :C:\msdchem\1\DATA\011712-M\M53724.D  
Operator : JK  
Acquired : 17 Jan 2012 2:04 pm using AcqMethod PCB.M  
Instrument : Instrument M  
Sample Name: 71978-1,1:100,,A/C  
Misc Info : SOIL  
Vial Number: 10



Handwritten signature/initials

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January 18, 2012

**SAMPLE DATA**

**CLIENT SAMPLE ID**

**Project Name:** Peabody Terrace  
**Project Number:** 210980  
**Field Sample ID:** PTD-CWK-632-2031

**Lab Sample ID:** 71978-2  
**Matrix:** Wipe  
**Percent Solid:** N/A  
**Dilution Factor:** 1.0  
**Collection Date:** 01/11/12  
**Lab Receipt Date:** 01/11/12  
**Extraction Date:** 01/11/12  
**Analysis Date:** 01/13/12

**PCB ANALYTICAL RESULTS**

COMPOUND	Quantitation Limit $\mu\text{g/wipe}$	Results $\mu\text{g/wipe}$
PCB-1016	0.5	U
PCB-1221	0.5	U
PCB-1232	0.5	U
PCB-1242	0.5	U
PCB-1248	0.5	U
PCB-1254	0.5	9.2
PCB-1260	0.5	U
PCB-1262	0.5	U
PCB-1268	0.5	U
<b>Surrogate Standard Recovery</b>		
2,4,5,6-Tetrachloro-m-xylene	96	%
Decachlorobiphenyl	99	%
U=Undetected J=Estimated E=Exceeds Calibration Range B=Detected in Blank		

**METHODOLOGY:** Sample analysis conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 8082.  
Sample preparation conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 3540C.  
Sample cleanup was conducted according to SW-846 Method 3665A.

**COMMENTS:**

PCB EXT Report

Authorized signature



PCB  
COLUMN RELATIVE PERCENT DIFFERENCE

Instrument ID: M

SDG:

GC Column #1: STX-CLPesticides I

Sample: 71978-2

Column ID: 0.25 mm

Data File: M53611.D

GC Column #2: STX-CLPesticides II

Dilution Factor: 1.0

Column ID: 0.25 mm

Column #1		Column #2		
COMPOUND	SAMPLE RESULT (ug/wipe)	SAMPLE RESULT (ug/wipe)	RPD	#
PCB 1254	8.7	9.2	5.9	

# Column to be used to flag RPD values greater than QC limit of 40%

\* Values outside QC limits

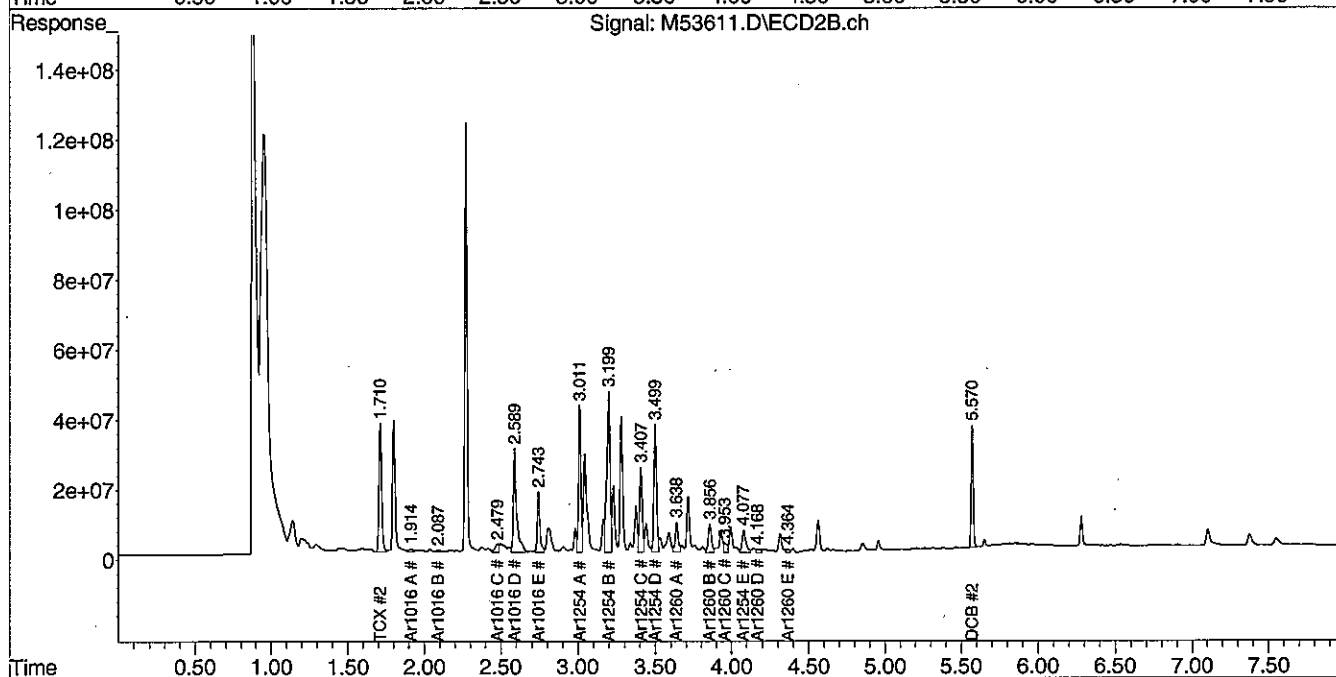
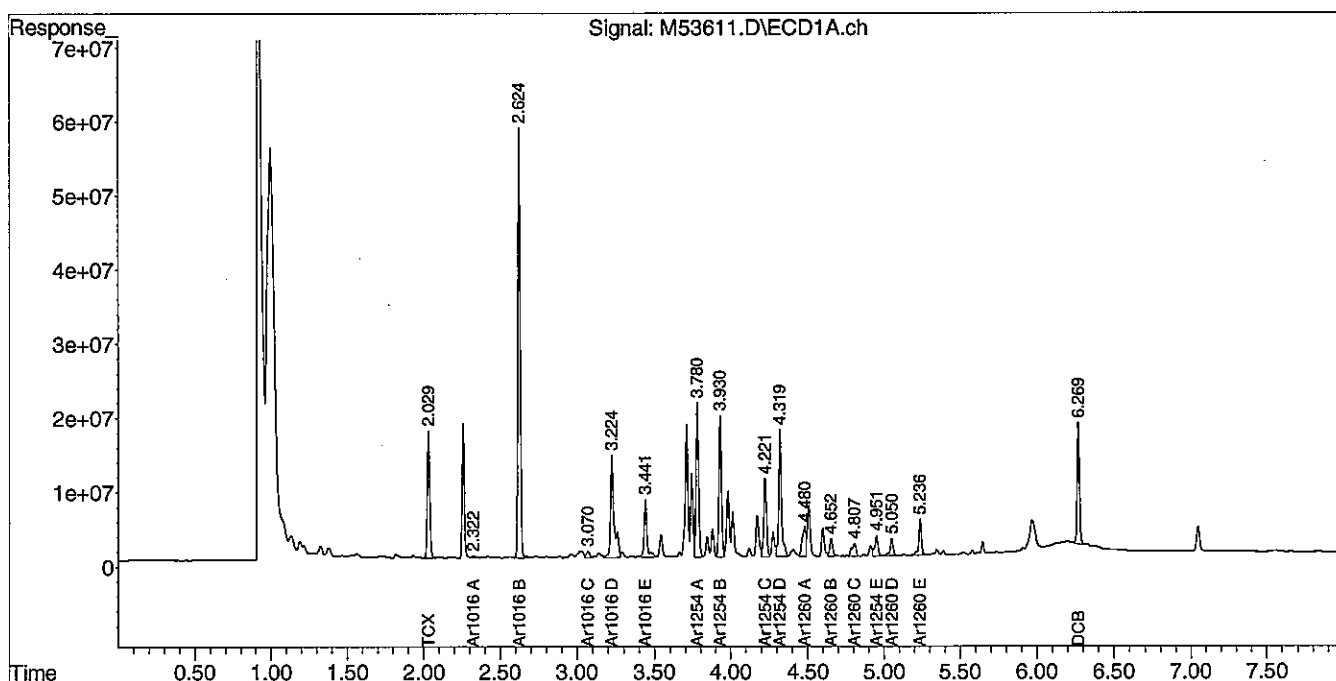
Comments: \_\_\_\_\_



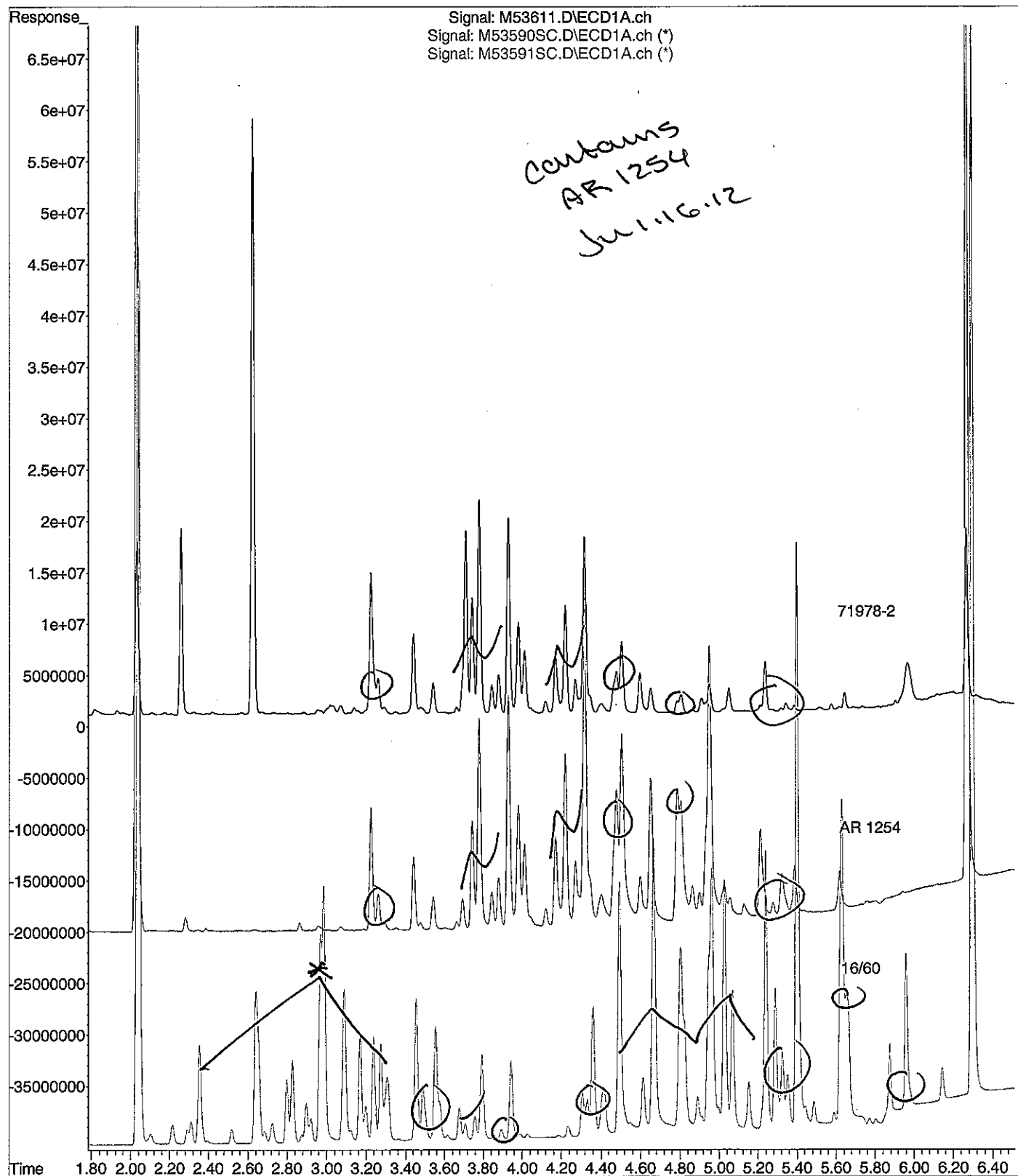
Data Path : C:\msdchem\1\DATA\011312-M\  
 Data File : M53611.D  
 Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch  
 Acq On : 13 Jan 2012 2:20 pm  
 Operator : JL  
 Sample : 71978-2  
 Misc : SOIL  
 ALS Vial : 18 Sample Multiplier: 1

Integration File signal 1: events.e  
 Integration File signal 2: events2.e  
 Quant Time: Jan 14 03:23:41 2012  
 Quant Method : C:\msdchem\1\METHODS\PCB011112.M  
 Quant Title : SW-846 METHOD 8082 Aroclor 1016/1260/1254  
 QLast Update : Thu Jan 12 21:49:46 2012  
 Response via : Initial Calibration  
 Integrator: ChemStation

Volume Inj. : 2 uL  
 Signal #1 Phase : STX-CLPPesticides Signal #2 Phase: STX-CLPPesticides  
 Signal #1 Info : 30 m x 0.25mm x 0 Signal #2 Info : 30 m x 0.25mm x 0.25 um



File :C:\msdchem\1\DATA\011312-M\M53611.D  
Operator : JL  
Acquired : 13 Jan 2012 2:20 pm using AcqMethod PCB.M  
Instrument : Instrument M  
Sample Name: 71978-2  
Misc Info : SOIL  
Vial Number: 18



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**SAMPLE DATA**

**CLIENT SAMPLE ID**

**Project Name:** Peabody Terrace  
**Project Number:** 210980  
**Field Sample ID:** PTD-CWK-632-2032

**Lab Sample ID:** 71978-3  
**Matrix:** Wipe  
**Percent Solid:** N/A  
**Dilution Factor:** 1.0  
**Collection Date:** 01/11/12  
**Lab Receipt Date:** 01/11/12  
**Extraction Date:** 01/11/12  
**Analysis Date:** 01/13/12

**PCB ANALYTICAL RESULTS**

COMPOUND	Quantitation Limit $\mu\text{g/wipe}$	Results $\mu\text{g/wipe}$
PCB-1016	0.5	U
PCB-1221	0.5	U
PCB-1232	0.5	U
PCB-1242	0.5	U
PCB-1248	0.5	U
PCB-1254	0.5	U
PCB-1260	0.5	U
PCB-1262	0.5	U
PCB-1268	0.5	U
<b><u>Surrogate Standard Recovery</u></b>		
2,4,5,6-Tetrachloro-m-xylene	*	%
Decachlorobiphenyl	*	%
U=Undetected J=Estimated E=Exceeds Calibration Range B=Detected in Blank		

**METHODOLOGY:** Sample analysis conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 8082.  
Sample preparation conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 3540C.  
Sample cleanup was conducted according to SW-846 Method 3665A.

**COMMENTS:** \* Surrogate recovery outside laboratory acceptance criteria due to laboratory error. Sample was reanalyzed with similar results. No further action was taken as the sample was consumed.

PCB EXT Report

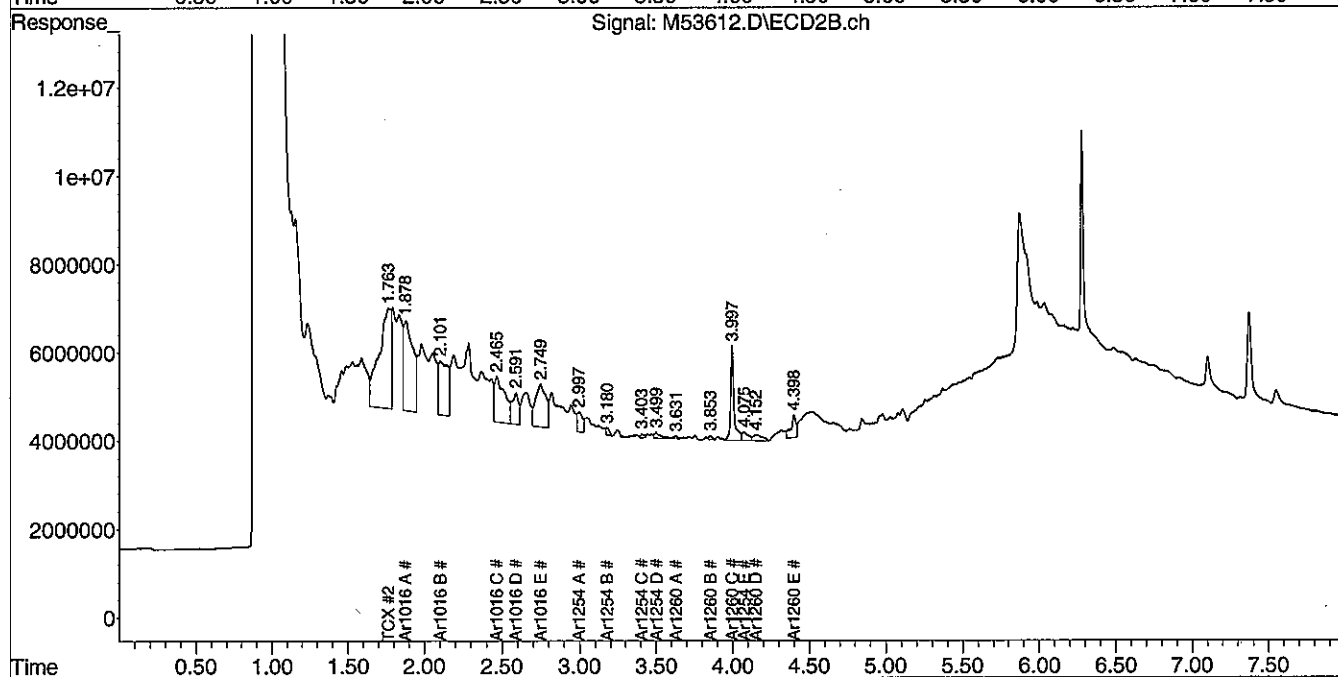
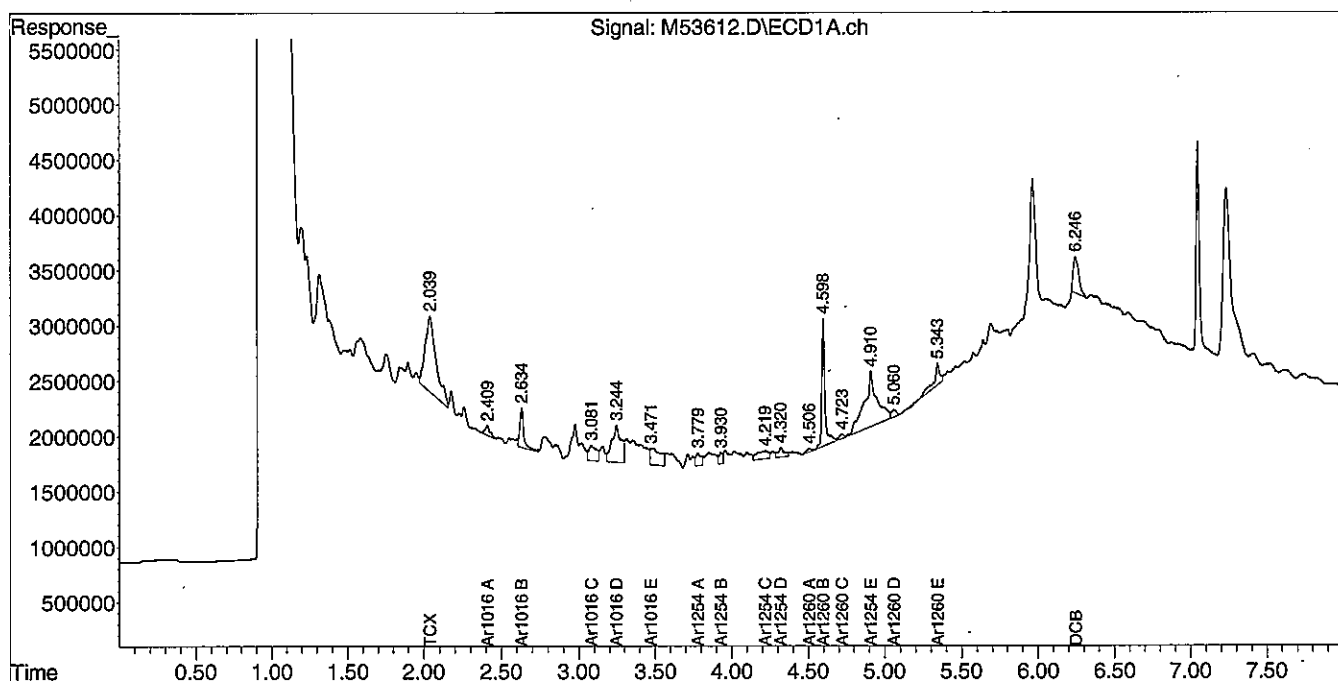
Authorized signature



Data Path : C:\msdchem\1\DATA\011312-M\  
 Data File : M53612.D  
 Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch  
 Acq On : 13 Jan 2012 2:30 pm  
 Operator : JL  
 Sample : 71978-3  
 Misc : SOIL  
 ALS Vial : 19 Sample Multiplier: 1

Integration File signal 1: events.e  
 Integration File signal 2: events2.e  
 Quant Time: Jan 14 03:23:43 2012  
 Quant Method : C:\msdchem\1\METHODS\PCB011112.M  
 Quant Title : SW-846 METHOD 8082 Aroclor 1016/1260/1254  
 QLast Update : Thu Jan 12 21:49:46 2012  
 Response via : Initial Calibration  
 Integrator: ChemStation

Volume Inj. : 2 uL  
 Signal #1 Phase : STX-CLPPesticides Signal #2 Phase: STX-CLPPesticides  
 Signal #1 Info : 30 m x 0.25mm x 0 Signal #2 Info : 30 m x 0.25mm x 0.25 um



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**SAMPLE DATA**

**CLIENT SAMPLE ID**

**Project Name:** Peabody Terrace  
**Project Number:** 210980  
**Field Sample ID:** PTD-CWT-632-2033

**Lab Sample ID:** 71978-4  
**Matrix:** Wipe  
**Percent Solid:** N/A  
**Dilution Factor:** 1.0  
**Collection Date:** 01/11/12  
**Lab Receipt Date:** 01/11/12  
**Extraction Date:** 01/11/12  
**Analysis Date:** 01/13/12

**PCB ANALYTICAL RESULTS**

COMPOUND	Quantitation Limit µg/wipe	Results µg/wipe
PCB-1016	0.5	U
PCB-1221	0.5	U
PCB-1232	0.5	U
PCB-1242	0.5	U
PCB-1248	0.5	U
PCB-1254	0.5	U
PCB-1260	0.5	U
PCB-1262	0.5	U
PCB-1268	0.5	U
<b><u>Surrogate Standard Recovery</u></b>		
2,4,5,6-Tetrachloro-m-xylene	91	%
Decachlorobiphenyl	88	%
U=Undetected J=Estimated E=Exceeds Calibration Range B=Detected in Blank		

**METHODOLOGY:** Sample analysis conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 8082.  
Sample preparation conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 3540C.  
Sample cleanup was conducted according to SW-846 Method 3665A.

**COMMENTS:**

PCB EXT Report

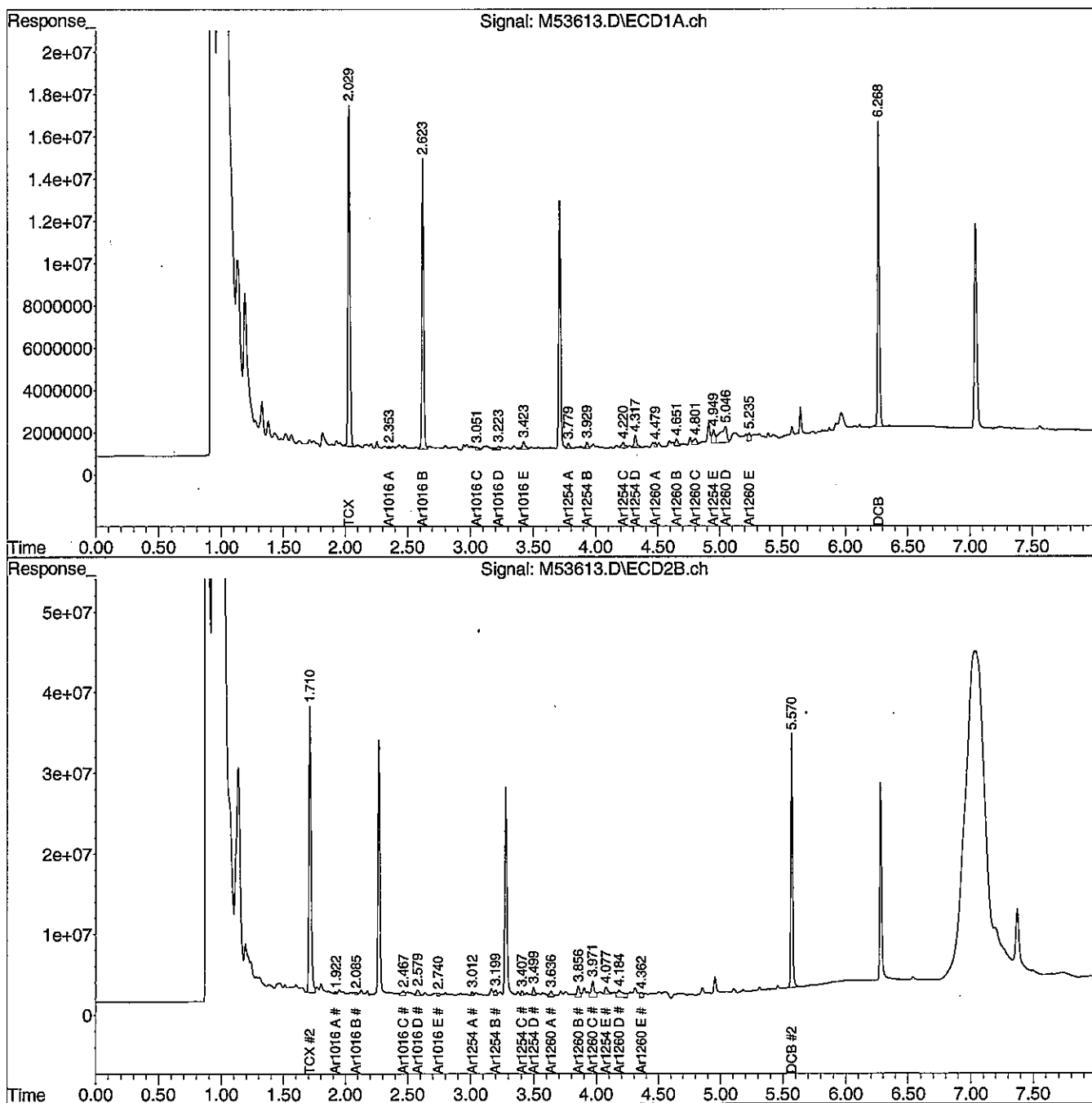
Authorized signature



Data Path : C:\msdchem\1\DATA\011312-M\  
Data File : M53613.D  
Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch  
Acq On : 13 Jan 2012 2:40 pm  
Operator : JL  
Sample : 71978-4  
Misc : SOIL  
ALS Vial : 20 Sample Multiplier: 1

Integration File signal 1: events.e  
Integration File signal 2: events2.e  
Quant Time: Jan 16 11:01:13 2012  
Quant Method : C:\msdchem\1\METHODS\PCB011112.M  
Quant Title : SW-846 METHOD 8082 Aroclor 1016/1260/1254  
QLast Update : Thu Jan 12 21:49:46 2012  
Response via : Initial Calibration  
Integrator: ChemStation

Volume Inj. : 2 uL  
Signal #1 Phase : STX-CLPPesticides Signal #2 Phase: STX-CLPPesticides  
Signal #1 Info : 30 m x 0.25mm x 0 Signal #2 Info : 30 m x 0.25mm x 0.25 um



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**SAMPLE DATA**

**CLIENT SAMPLE ID**

**Project Name:** Peabody Terrace  
**Project Number:** 210980  
**Field Sample ID:** PTD-CWTD-632-2034

**Lab Sample ID:** 71978-5  
**Matrix:** Wipe  
**Percent Solid:** N/A  
**Dilution Factor:** 1.0  
**Collection Date:** 01/11/12  
**Lab Receipt Date:** 01/11/12  
**Extraction Date:** 01/11/12  
**Analysis Date:** 01/13/12

**PCB ANALYTICAL RESULTS**

COMPOUND	Quantitation Limit $\mu\text{g/wipe}$	Results $\mu\text{g/wipe}$
PCB-1016	0.5	U
PCB-1221	0.5	U
PCB-1232	0.5	U
PCB-1242	0.5	U
PCB-1248	0.5	U
PCB-1254	0.5	U
PCB-1260	0.5	U
PCB-1262	0.5	U
PCB-1268	0.5	U
<b>Surrogate Standard Recovery</b>		
2,4,5,6-Tetrachloro-m-xylene	88	%
Decachlorobiphenyl	84	%
U=Undetected J=Estimated E=Exceeds Calibration Range B=Detected in Blank		

**METHODOLOGY:** Sample analysis conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 8082.  
Sample preparation conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 3540C.  
Sample cleanup was conducted according to SW-846 Method 3665A.

**COMMENTS:**

PCB EXT Report

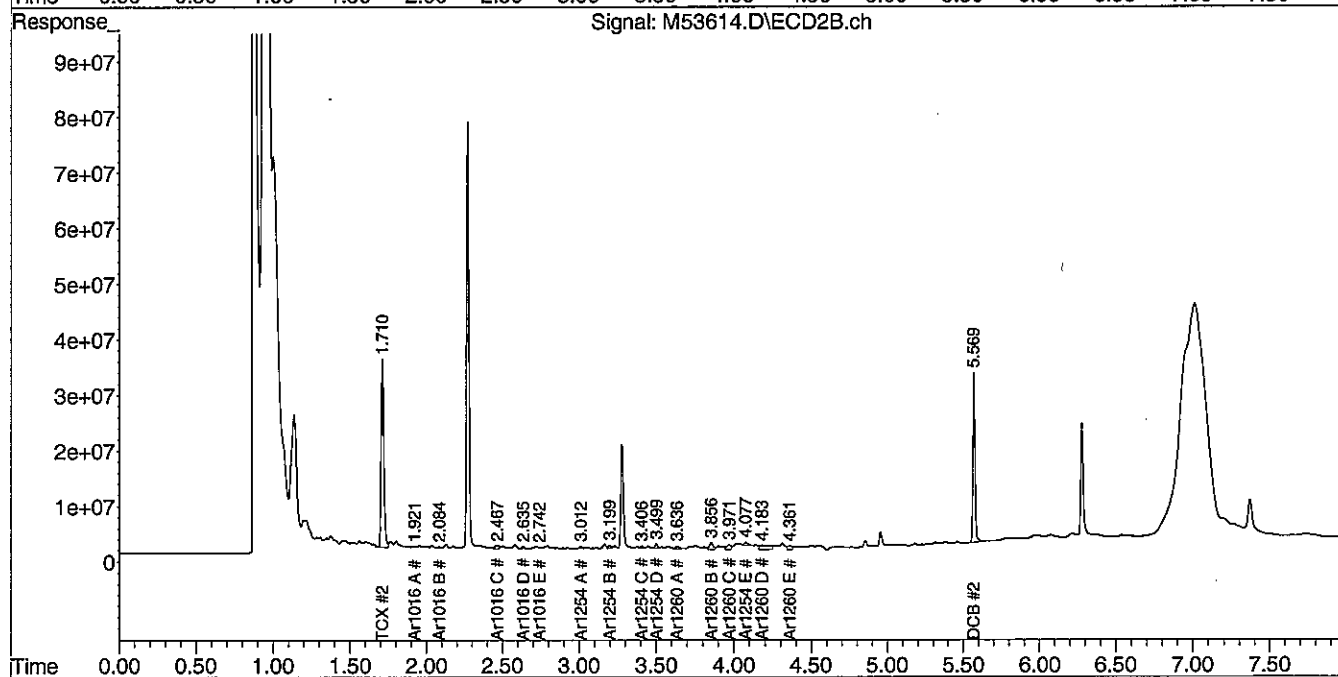
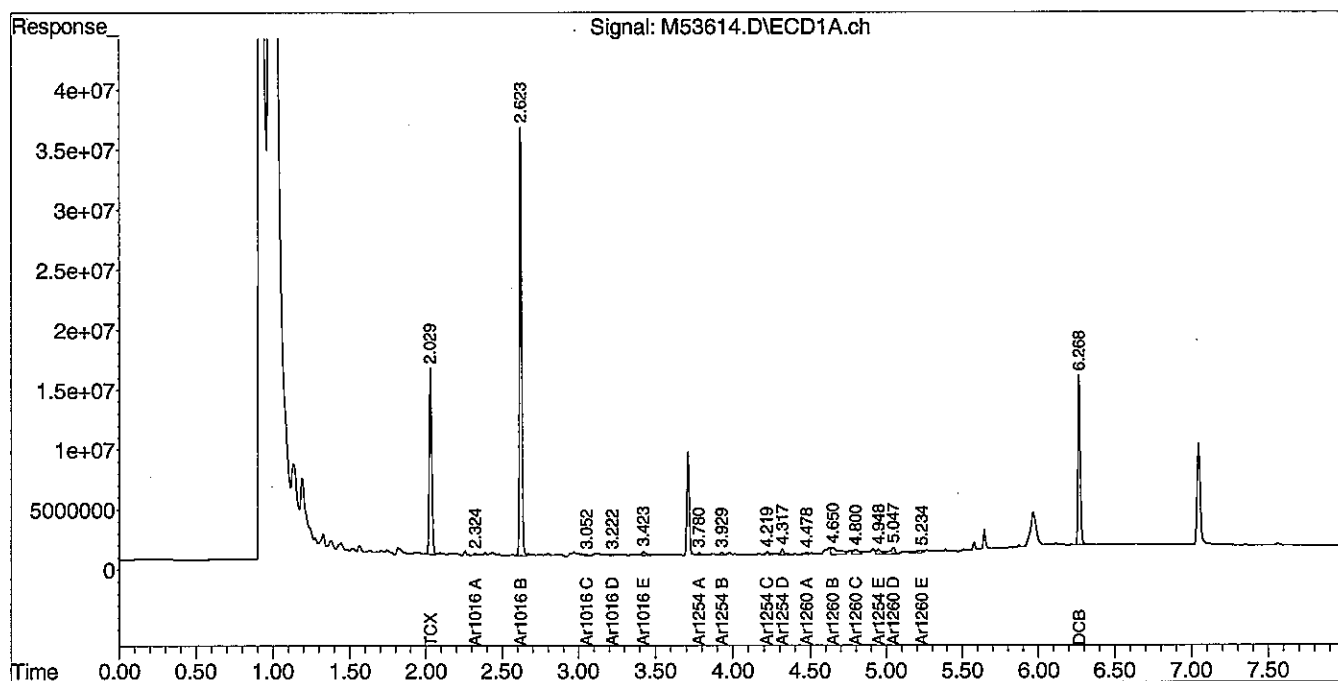
Authorized signature



Data Path : C:\msdchem\1\DATA\011312-M\  
Data File : M53614.D  
Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch  
Acq On : 13 Jan 2012 2:51 pm  
Operator : JL  
Sample : 71978-5  
Misc : SOIL  
ALS Vial : 21 Sample Multiplier: 1

Integration File signal 1: events.e  
Integration File signal 2: events2.e  
Quant Time: Jan 16 11:02:05 2012  
Quant Method : C:\msdchem\1\METHODS\PCB011112.M  
Quant Title : SW-846 METHOD 8082 Aroclor 1016/1260/1254  
QLast Update : Thu Jan 12 21:49:46 2012  
Response via : Initial Calibration  
Integrator: ChemStation

Volume Inj. : 2 uL  
Signal #1 Phase : STX-CLPPesticides Signal #2 Phase: STX-CLPPesticides  
Signal #1 Info : 30 m x 0.25mm x 0 Signal #2 Info : 30 m x 0.25mm x 0.25 um





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**SAMPLE DATA**

**CLIENT SAMPLE ID**

**Project Name:** Peabody Terrace  
**Project Number:** 210980  
**Field Sample ID:** PTD-CWW-632-2035

**Lab Sample ID:** 71978-6  
**Matrix:** Wipe  
**Percent Solid:** N/A  
**Dilution Factor:** 1.0  
**Collection Date:** 01/11/12  
**Lab Receipt Date:** 01/11/12  
**Extraction Date:** 01/11/12  
**Analysis Date:** 01/13/12

**PCB ANALYTICAL RESULTS**

COMPOUND	Quantitation Limit µg/wipe	Results µg/wipe
PCB-1016	0.5	U
PCB-1221	0.5	U
PCB-1232	0.5	U
PCB-1242	0.5	U
PCB-1248	0.5	U
PCB-1254	0.5	0.8
PCB-1260	0.5	U
PCB-1262	0.5	U
PCB-1268	0.5	U
<b>Surrogate Standard Recovery</b>		
2,4,5,6-Tetrachloro-m-xylene	94 %	
Decachlorobiphenyl	89 %	
U=Undetected J=Estimated E=Exceeds Calibration Range B=Detected in Blank		

**METHODOLOGY:** Sample analysis conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 8082.  
Sample preparation conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 3540C.  
Sample cleanup was conducted according to SW-846 Method 3665A.

**COMMENTS:**

PCB EXT Report

Authorized signature

*M. J. Blunt*

PCB  
COLUMN RELATIVE PERCENT DIFFERENCE

Instrument ID: M  
GC Column #1: STX-CLPesticides I  
Column ID: 0.25 mm  
GC Column #2: STX-CLPesticides II  
Column ID: 0.25 mm

SDG:  
Sample: 71978-6  
Data File: M53615.D  
Dilution Factor: 1.0

COMPOUND	Column #1	Column #2	RPD		#
	SAMPLE RESULT (ug/wipe)	SAMPLE RESULT (ug/wipe)			
PCB 1254	0.8	0.8	1.3		

# Column to be used to flag RPD values greater than QC limit of 40%

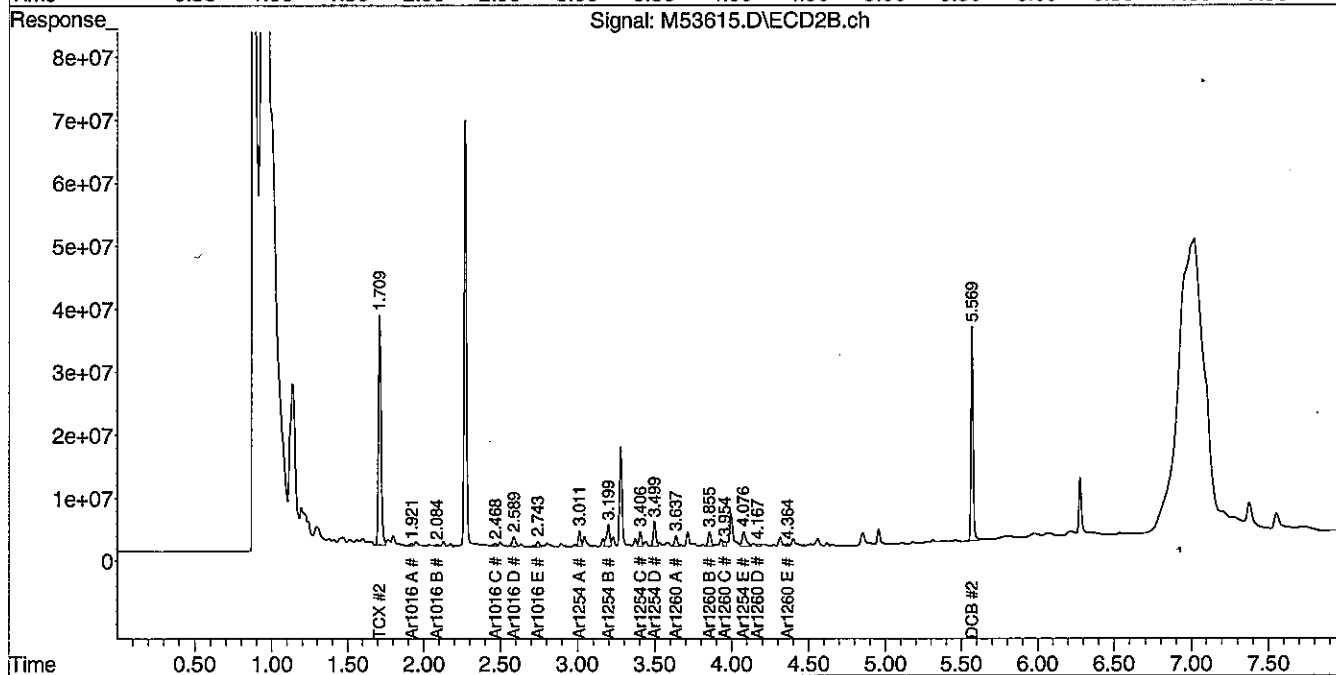
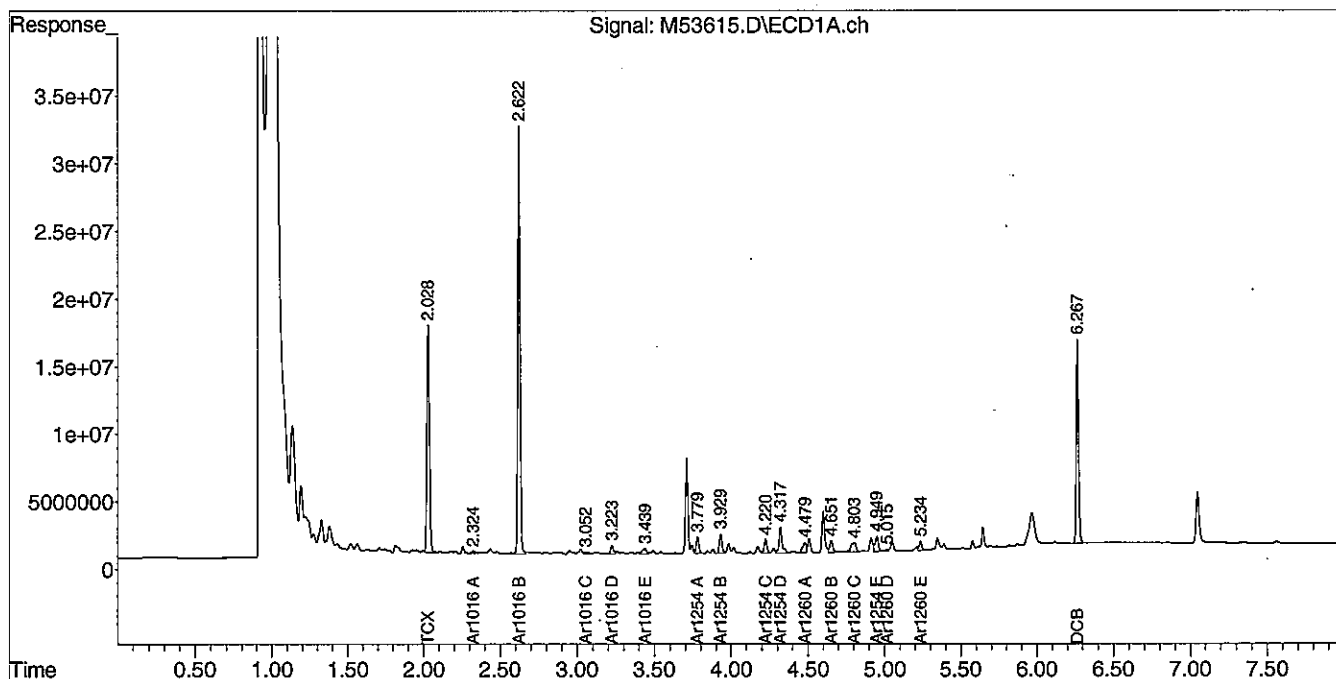
\* Values outside QC limits

Comments: \_\_\_\_\_

Data Path : C:\msdchem\1\DATA\011312-M\  
Data File : M53615.D  
Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch  
Acq On : 13 Jan 2012 3:01 pm  
Operator : JL  
Sample : 71978-6  
Misc : SOIL  
ALS Vial : 22 Sample Multiplier: 1

Integration File signal 1: events.e  
Integration File signal 2: events2.e  
Quant Time: Jan 14 03:23:49 2012  
Quant Method : C:\msdchem\1\METHODS\PCB011112.M  
Quant Title : SW-846 METHOD 8082 Aroclor 1016/1260/1254  
QLast Update : Thu Jan 12 21:49:46 2012  
Response via : Initial Calibration  
Integrator: ChemStation

Volume Inj. : 2 uL  
Signal #1 Phase : STX-CLPPesticides Signal #2 Phase: STX-CLPPesticides  
Signal #1 Info : 30 m x 0.25mm x 0 Signal #2 Info : 30 m x 0.25mm x 0.25 um



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**SAMPLE DATA**

**CLIENT SAMPLE ID**

**Project Name:** Peabody Terrace  
**Project Number:** 210980  
**Field Sample ID:** PTD-CWM-632-2036

**Lab Sample ID:** 71978-7  
**Matrix:** Wipe  
**Percent Solid:** N/A  
**Dilution Factor:** 1.0  
**Collection Date:** 01/11/12  
**Lab Receipt Date:** 01/11/12  
**Extraction Date:** 01/11/12  
**Analysis Date:** 01/13/12

**PCB ANALYTICAL RESULTS**

COMPOUND	Quantitation Limit $\mu\text{g/wipe}$	Results $\mu\text{g/wipe}$
PCB-1016	0.5	U
PCB-1221	0.5	U
PCB-1232	0.5	U
PCB-1242	0.5	U
PCB-1248	0.5	U
PCB-1254	0.5	U
PCB-1260	0.5	U
PCB-1262	0.5	U
PCB-1268	0.5	U
<b>Surrogate Standard Recovery</b>		
2,4,5,6-Tetrachloro-m-xylene	96	%
Decachlorobiphenyl	97	%
U=Undetected J=Estimated E=Exceeds Calibration Range B=Detected in Blank		

**METHODOLOGY:** Sample analysis conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 8082.  
Sample preparation conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 3540C.  
Sample cleanup was conducted according to SW-846 Method 3665A.

**COMMENTS:**

PCB EXT Report

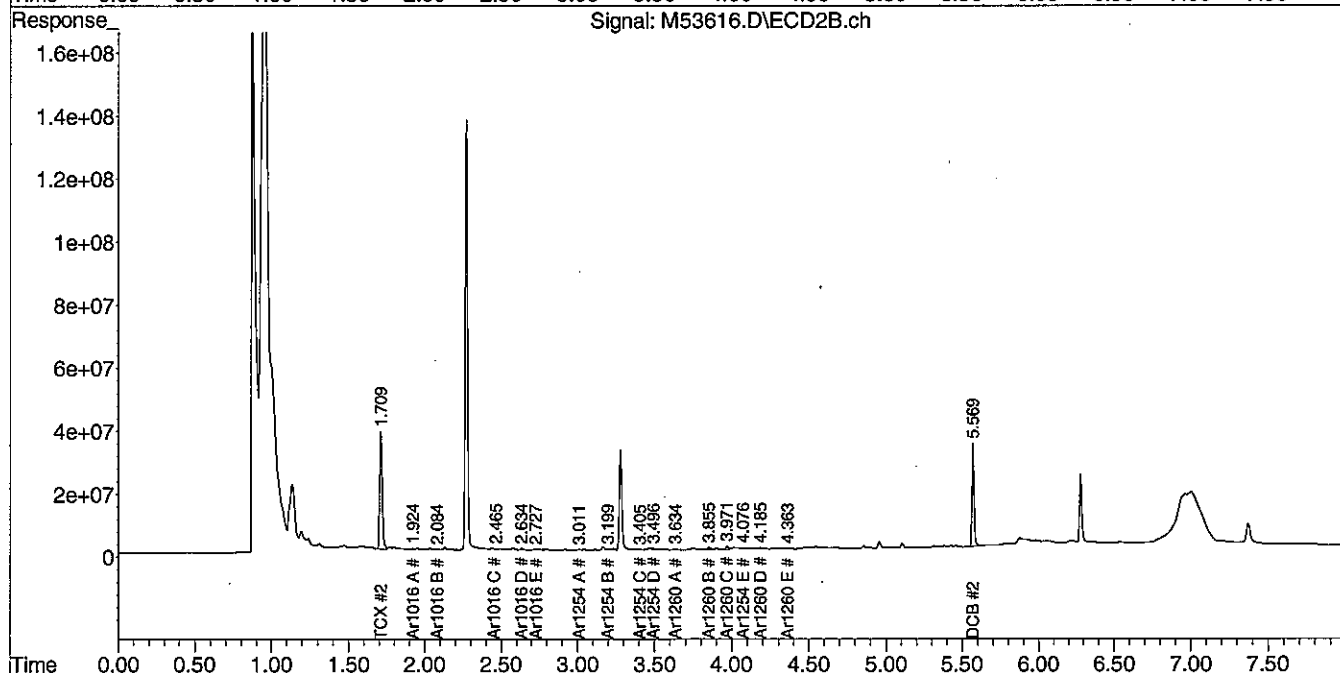
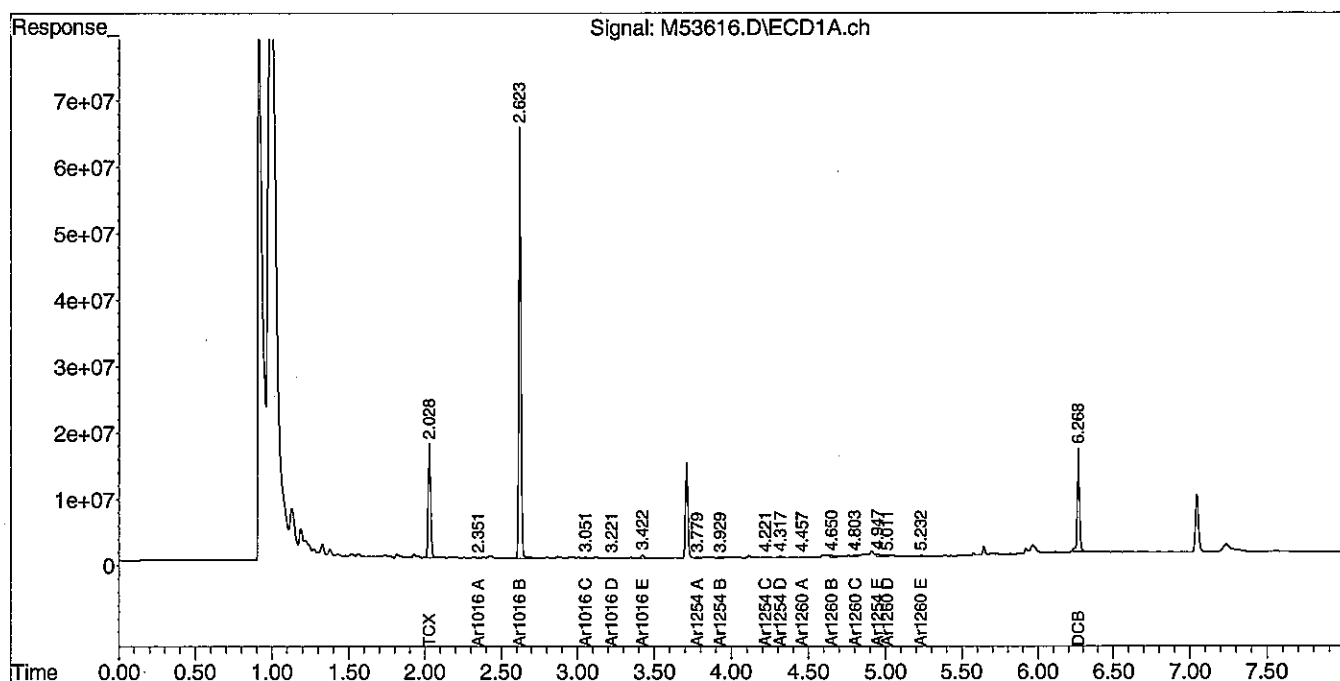
Authorized signature



Data Path : C:\msdchem\1\DATA\011312-M\  
 Data File : M53616.D  
 Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch  
 Acq On : 13 Jan 2012 3:11 pm  
 Operator : JL  
 Sample : 71978-7  
 Misc : SOIL  
 ALS Vial : 23 Sample Multiplier: 1

Integration File signal 1: events.e  
 Integration File signal 2: events2.e  
 Quant Time: Jan 14 03:23:51 2012  
 Quant Method : C:\msdchem\1\METHODS\PCB011112.M  
 Quant Title : SW-846 METHOD 8082 Aroclor 1016/1260/1254  
 QLast Update : Thu Jan 12 21:49:46 2012  
 Response via : Initial Calibration  
 Integrator: ChemStation

Volume Inj. : 2 uL  
 Signal #1 Phase : STX-CLPPesticides Signal #2 Phase: STX-CLPPesticides  
 Signal #1 Info : 30 m x 0.25mm x 0 Signal #2 Info : 30 m x 0.25mm x 0.25 um



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**SAMPLE DATA**

**CLIENT SAMPLE ID**

**Project Name:** Peabody Terrace  
**Project Number:** 210980  
**Field Sample ID:** PTZ-CWK-121-2038

**Lab Sample ID:** 71978-8  
**Matrix:** Wipe  
**Percent Solid:** N/A  
**Dilution Factor:** 1.0  
**Collection Date:** 01/11/12  
**Lab Receipt Date:** 01/11/12  
**Extraction Date:** 01/11/12  
**Analysis Date:** 01/13/12

**PCB ANALYTICAL RESULTS**

COMPOUND	Quantitation Limit µg/wipe	Results µg/wipe
PCB-1016	0.5	U
PCB-1221	0.5	U
PCB-1232	0.5	U
PCB-1242	0.5	U
PCB-1248	0.5	U
PCB-1254	0.5	1.6
PCB-1260	0.5	U
PCB-1262	0.5	U
PCB-1268	0.5	U
<b>Surrogate Standard Recovery</b>		
2,4,5,6-Tetrachloro-m-xylene	86	%
Decachlorobiphenyl	90	%
U=Undetected J=Estimated E=Exceeds Calibration Range B=Detected in Blank		

**METHODOLOGY:** Sample analysis conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 8082.  
Sample preparation conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 3540C.  
Sample cleanup was conducted according to SW-846 Method 3665A.

**COMMENTS:**

PCB EXT Report

Authorized signature



PCB  
COLUMN RELATIVE PERCENT DIFFERENCE

Instrument ID: M  
GC Column #1: STX-CLPesticides I  
Column ID: 0.25 mm  
GC Column #2: STX-CLPesticides II  
Column ID: 0.25 mm

SDG:  
Sample: 71978-8  
Data File: M53617.D  
Dilution Factor: 1.0

COMPOUND	Column #1	Column #2	RPD		#
	SAMPLE RESULT (ug/wipe)	SAMPLE RESULT (ug/wipe)			
PCB 1254	1.5	1.6	1.6		

# Column to be used to flag RPD values greater than QC limit of 40%

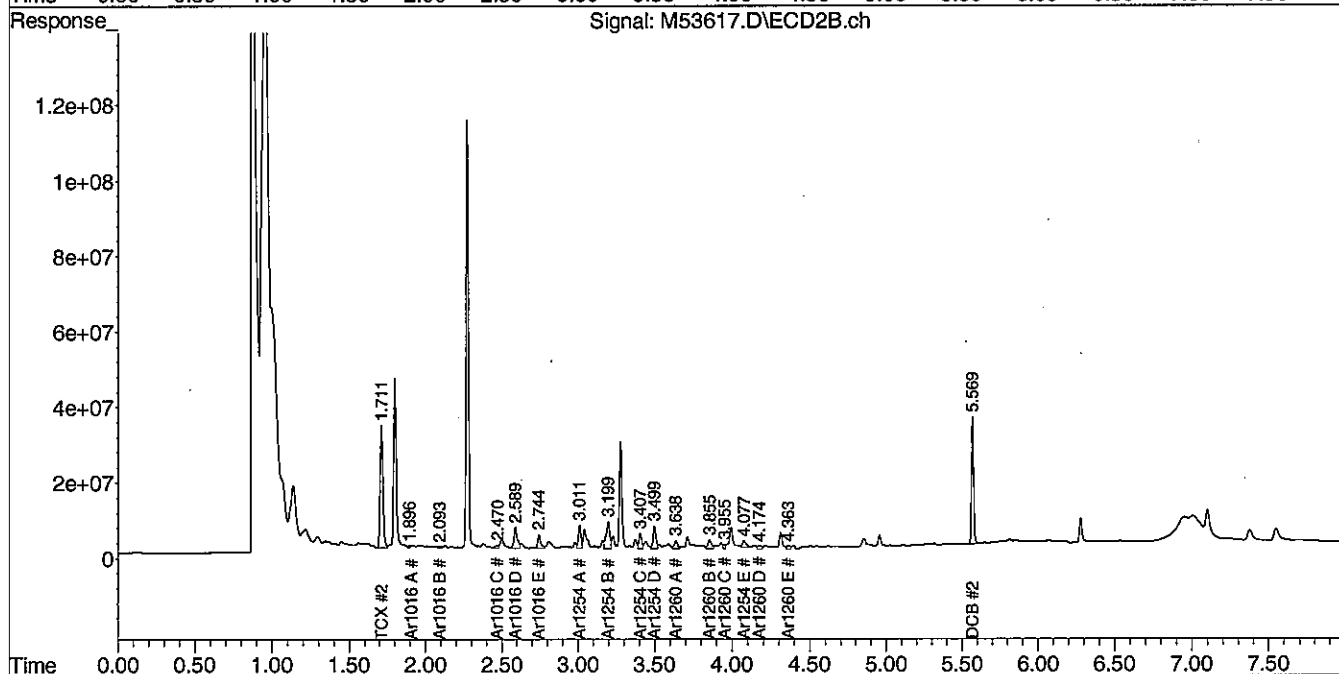
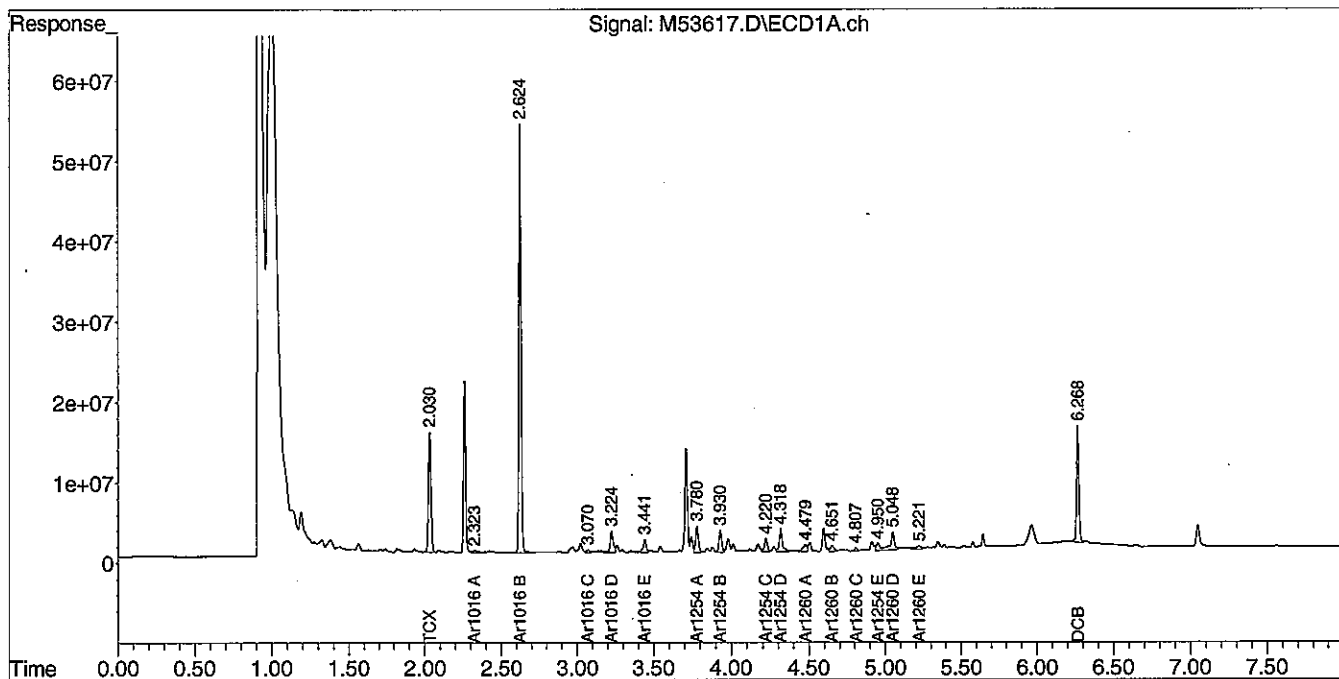
\* Values outside QC limits

Comments: \_\_\_\_\_

Data Path : C:\msdchem\1\DATA\011312-M\  
Data File : M53617.D  
Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch  
Acq On : 13 Jan 2012 3:21 pm  
Operator : JL  
Sample : 71978-8  
Misc : SOIL  
ALS Vial : 24 Sample Multiplier: 1

Integration File signal 1: events.e  
Integration File signal 2: events2.e  
Quant Time: Jan 16 11:03:42 2012  
Quant Method : C:\msdchem\1\METHODS\PCB011112.M  
Quant Title : SW-846 METHOD 8082 Aroclor 1016/1260/1254  
QLast Update : Thu Jan 12 21:49:46 2012  
Response via : Initial Calibration  
Integrator: ChemStation

Volume Inj. : 2 uL  
Signal #1 Phase : STX-CLPPesticides Signal #2 Phase: STX-CLPPesticides  
Signal #1 Info : 30 m x 0.25mm x 0 Signal #2 Info : 30 m x 0.25mm x 0.25 um





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**SAMPLE DATA**

**CLIENT SAMPLE ID**

**Project Name:** Peabody Terrace  
**Project Number:** 210980  
**Field Sample ID:** PTZ-CWK-121-2039

**Lab Sample ID:** 71978-9  
**Matrix:** Wipe  
**Percent Solid:** N/A  
**Dilution Factor:** 1.0  
**Collection Date:** 01/11/12  
**Lab Receipt Date:** 01/11/12  
**Extraction Date:** 01/11/12  
**Analysis Date:** 01/13/12

**PCB ANALYTICAL RESULTS**

COMPOUND	Quantitation Limit $\mu\text{g/wipe}$	Results $\mu\text{g/wipe}$
PCB-1016	0.5	U
PCB-1221	0.5	U
PCB-1232	0.5	U
PCB-1242	0.5	U
PCB-1248	0.5	U
PCB-1254	0.5	U
PCB-1260	0.5	U
PCB-1262	0.5	U
PCB-1268	0.5	U
<b>Surrogate Standard Recovery</b>		
2,4,5,6-Tetrachloro-m-xylene	*	%
Decachlorobiphenyl	*	%
U=Undetected J=Estimated E=Exceeds Calibration Range B=Detected in Blank		

**METHODOLOGY:** Sample analysis conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 8082.  
Sample preparation conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 3540C.  
Sample cleanup was conducted according to SW-846 Method 3665A.

**COMMENTS:** \* Surrogate recovery outside laboratory acceptance criteria due to laboratory error. Sample was reanalyzed with similar results. No further action was taken as the sample was consumed.

PCB EXT Report

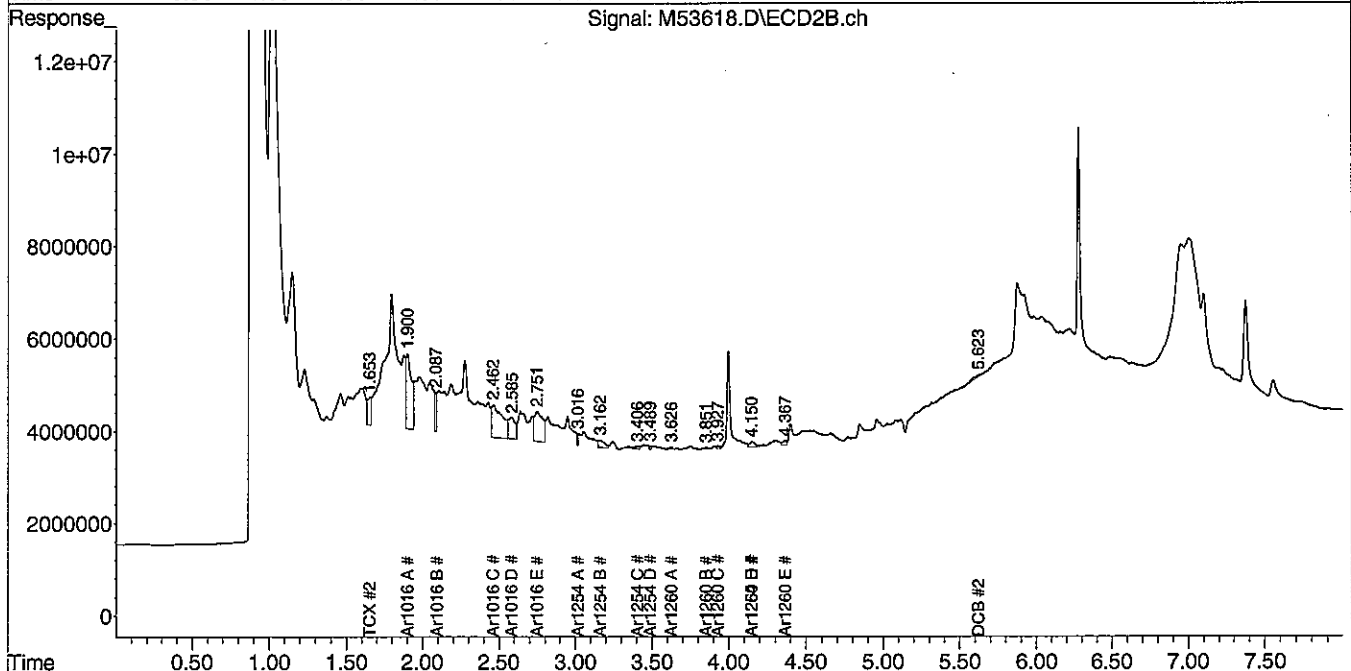
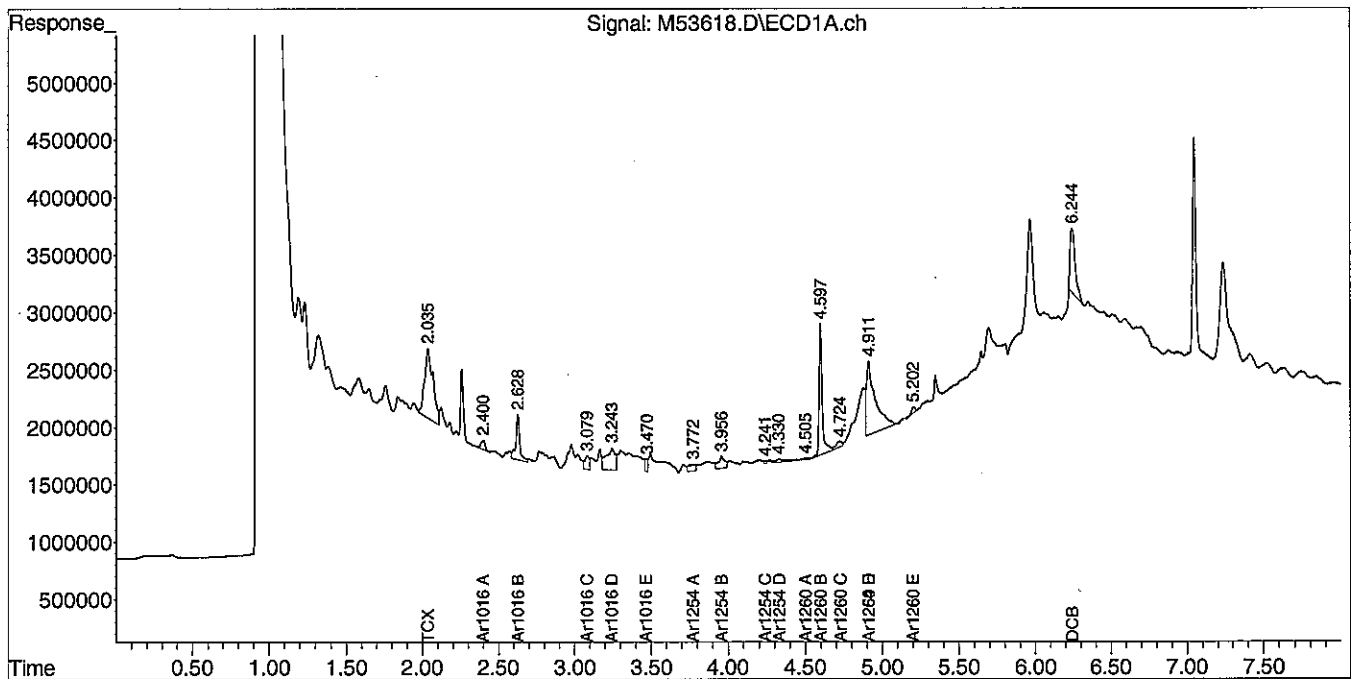
Authorized signature



Data Path : C:\msdchem\1\DATA\011312-M\  
 Data File : M53618.D  
 Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch  
 Acq On : 13 Jan 2012 3:31 pm  
 Operator : JL  
 Sample : 71978-9  
 Misc : SOIL  
 ALS Vial : 25 Sample Multiplier: 1

Integration File signal 1: events.e  
 Integration File signal 2: events2.e  
 Quant Time: Jan 14 03:23:55 2012  
 Quant Method : C:\msdchem\1\METHODS\PCB011112.M  
 Quant Title : SW-846 METHOD 8082 Aroclor 1016/1260/1254  
 QLast Update : Thu Jan 12 21:49:46 2012  
 Response via : Initial Calibration  
 Integrator: ChemStation

Volume Inj. : 2 uL  
 Signal #1 Phase : STX-CLPPesticides Signal #2 Phase: STX-CLPPesticides  
 Signal #1 Info : 30 m x 0.25mm x 0 Signal #2 Info : 30 m x 0.25mm x 0.25 um



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**SAMPLE DATA**

**CLIENT SAMPLE ID**

**Project Name:** Peabody Terrace  
**Project Number:** 210980  
**Field Sample ID:** PTZ-CWKD-121-2040

**Lab Sample ID:** 71978-10  
**Matrix:** Wipe  
**Percent Solid:** N/A  
**Dilution Factor:** 1.0  
**Collection Date:** 01/11/12  
**Lab Receipt Date:** 01/11/12  
**Extraction Date:** 01/11/12  
**Analysis Date:** 01/13/12

**PCB ANALYTICAL RESULTS**

COMPOUND	Quantitation Limit $\mu\text{g/wipe}$	Results $\mu\text{g/wipe}$
PCB-1016	0.5	U
PCB-1221	0.5	U
PCB-1232	0.5	U
PCB-1242	0.5	U
PCB-1248	0.5	U
PCB-1254	0.5	U
PCB-1260	0.5	U
PCB-1262	0.5	U
PCB-1268	0.5	U
<b>Surrogate Standard Recovery</b>		
2,4,5,6-Tetrachloro-m-xylene	37	%
Decachlorobiphenyl	36	%
U=Undetected J=Estimated E=Exceeds Calibration Range B=Detected in Blank		

**METHODOLOGY:** Sample analysis conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 8082.  
Sample preparation conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 3540C.  
Sample cleanup was conducted according to SW-846 Method 3665A.

**COMMENTS:**

PCB EXT Report

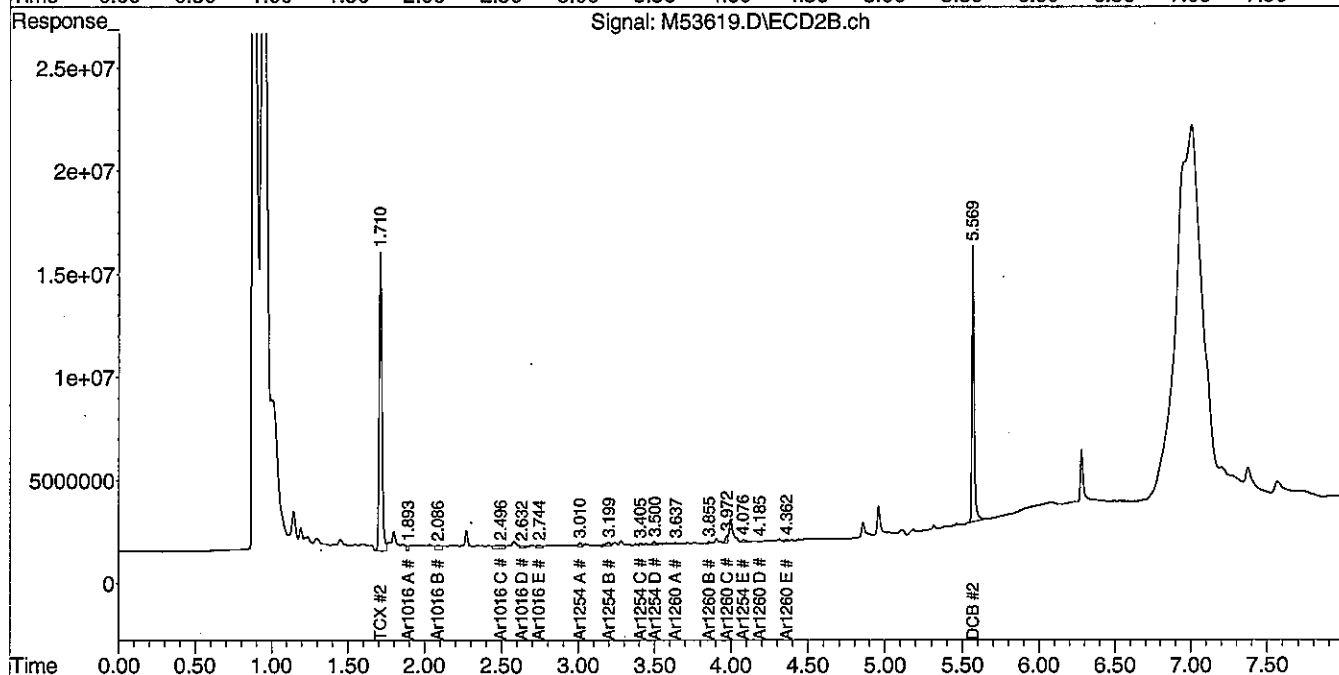
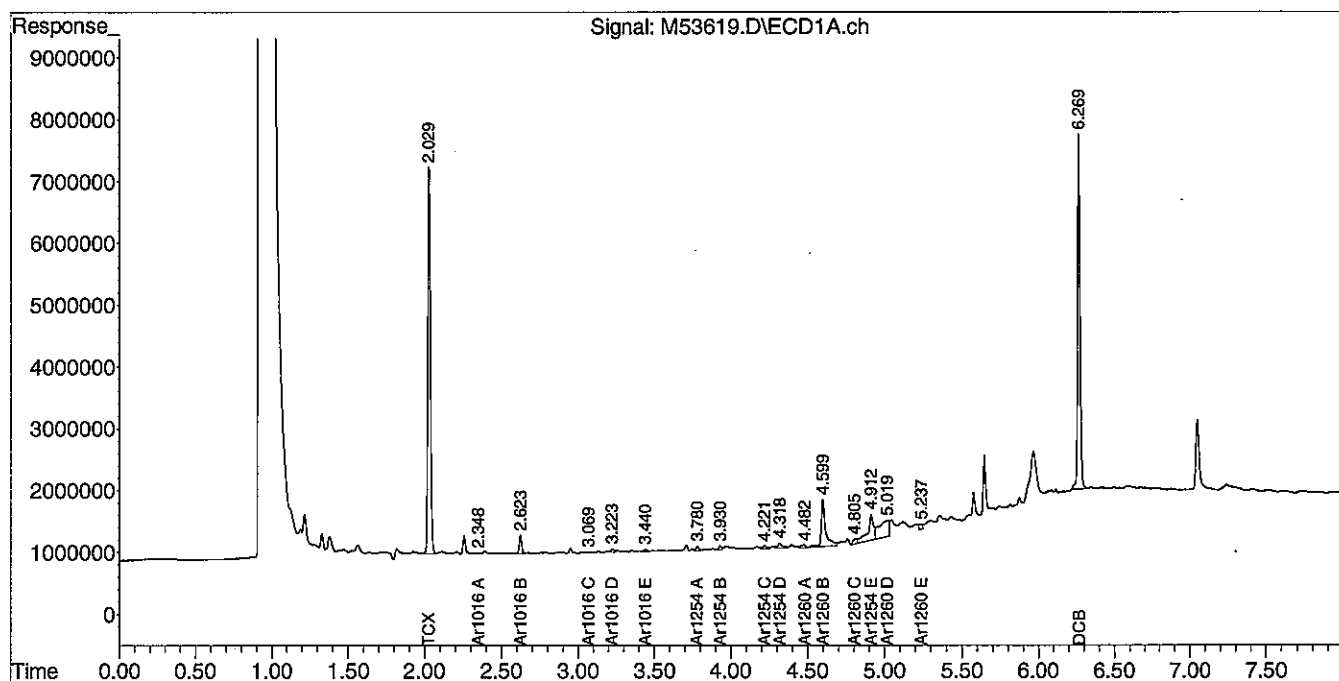
Authorized signature



Data Path : C:\msdchem\1\DATA\011312-M\  
 Data File : M53619.D  
 Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch  
 Acq On : 13 Jan 2012 3:41 pm  
 Operator : JL  
 Sample : 71978-10  
 Misc : SOIL  
 ALS Vial : 26 Sample Multiplier: 1

Integration File signal 1: events.e  
 Integration File signal 2: events2.e  
 Quant Time: Jan 14 03:23:57 2012  
 Quant Method : C:\msdchem\1\METHODS\PCB011112.M  
 Quant Title : SW-846 METHOD 8082 Aroclor 1016/1260/1254  
 QLast Update : Thu Jan 12 21:49:46 2012  
 Response via : Initial Calibration  
 Integrator: ChemStation

Volume Inj. : 2 uL  
 Signal #1 Phase : STX-CLPPesticides Signal #2 Phase: STX-CLPPesticides  
 Signal #1 Info : 30 m x 0.25mm x 0 Signal #2 Info : 30 m x 0.25mm x 0.25 um



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January 17, 2012

**SAMPLE DATA**

**CLIENT SAMPLE ID**  
**Project Name:** Peabody Terrace  
**Project Number:** 210980  
**Field Sample ID:** PTZ-CBK-121-2041

**Lab Sample ID:** 71978-11  
**Matrix:** Solid  
**Percent Solid:** 99  
**Dilution Factor:** 393  
**Collection Date:** 01/11/12  
**Lab Receipt Date:** 01/11/12  
**Extraction Date:** 01/11/12  
**Analysis Date:** 01/17/12

PCB ANALYTICAL RESULTS		
COMPOUND	Quantitation Limit µg/kg	Results µg/kg
PCB-1016	13000	U
PCB-1221	13000	U
PCB-1232	13000	U
PCB-1242	13000	U
PCB-1248	13000	U
PCB-1254	13000	235000
PCB-1260	13000	U
PCB-1262	13000	U
PCB-1268	13000	U
<b>Surrogate Standard Recovery</b>		
2,4,5,6-Tetrachloro-m-xylene	* %	
Decachlorobiphenyl	* %	
U=Undetected J=Estimated E=Exceeds Calibration Range B=Detected in Blank		

**METHODOLOGY:** Sample analysis conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 8082.  
Sample preparation conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 3540C.  
Sample cleanup was conducted according to SW-846 Method 3665A.

**COMMENTS:** Results are expressed on a dry weight basis.  
\* The surrogates were diluted out.

PCB EXT Report

Authorized signature



PCB  
COLUMN RELATIVE PERCENT DIFFERENCE

Instrument ID: M  
GC Column #1: STX-CLPesticides I  
Column ID: 0.25 mm  
GC Column #2: STX-CLPesticides II  
Column ID: 0.25 mm

SDG: 71978  
Sample: 71978-11,1:50,,A/C  
Data File: M53725.D  
Dilution Factor: 392.7

Column #1		Column #2		
COMPOUND	SAMPLE RESULT (ug/kg)	SAMPLE RESULT (ug/kg)	RPD	#
PCB 1254	222308	235439	5.7	

# Column to be used to flag RPD values greater than QC limit of 40%

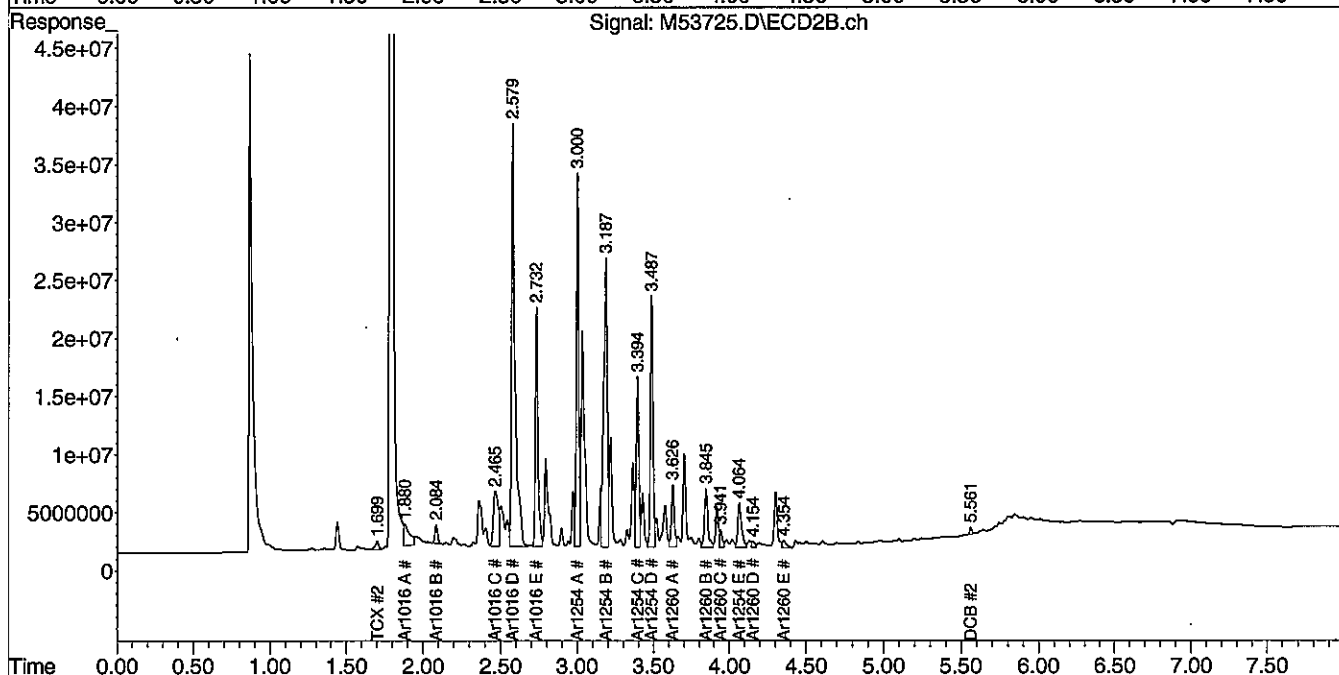
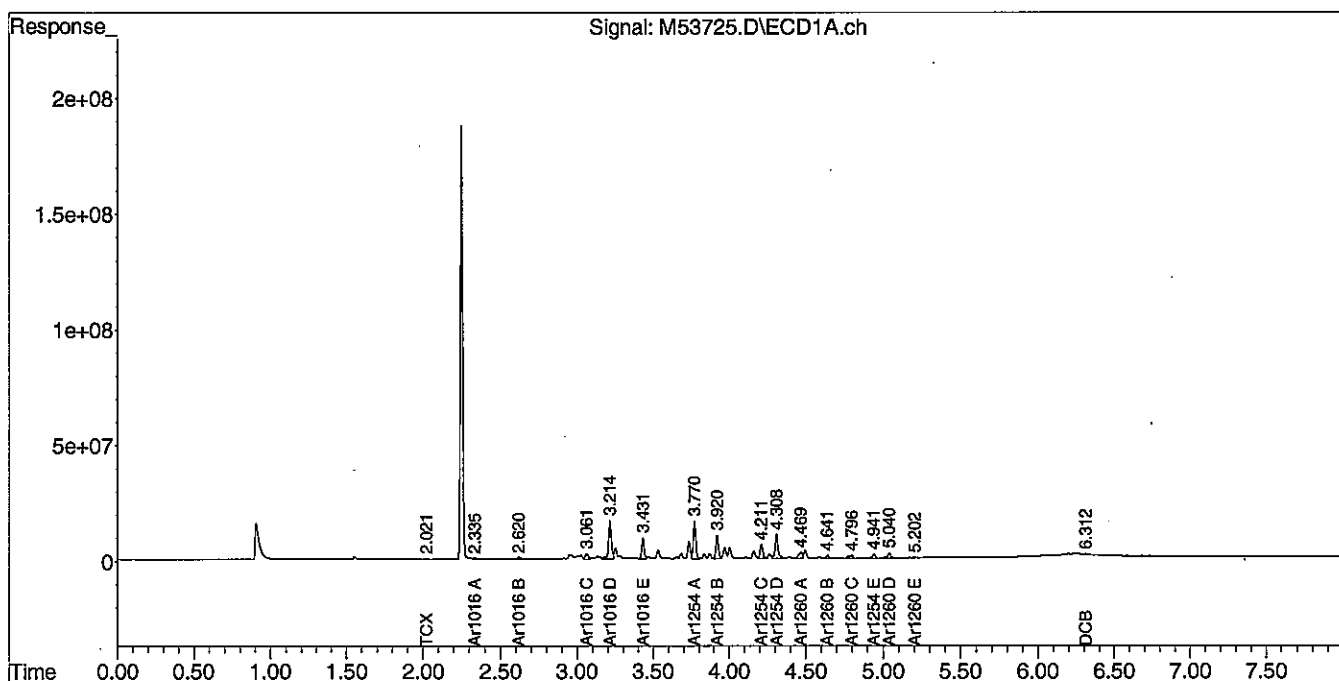
\* Values outside QC limits

Comments: \_\_\_\_\_

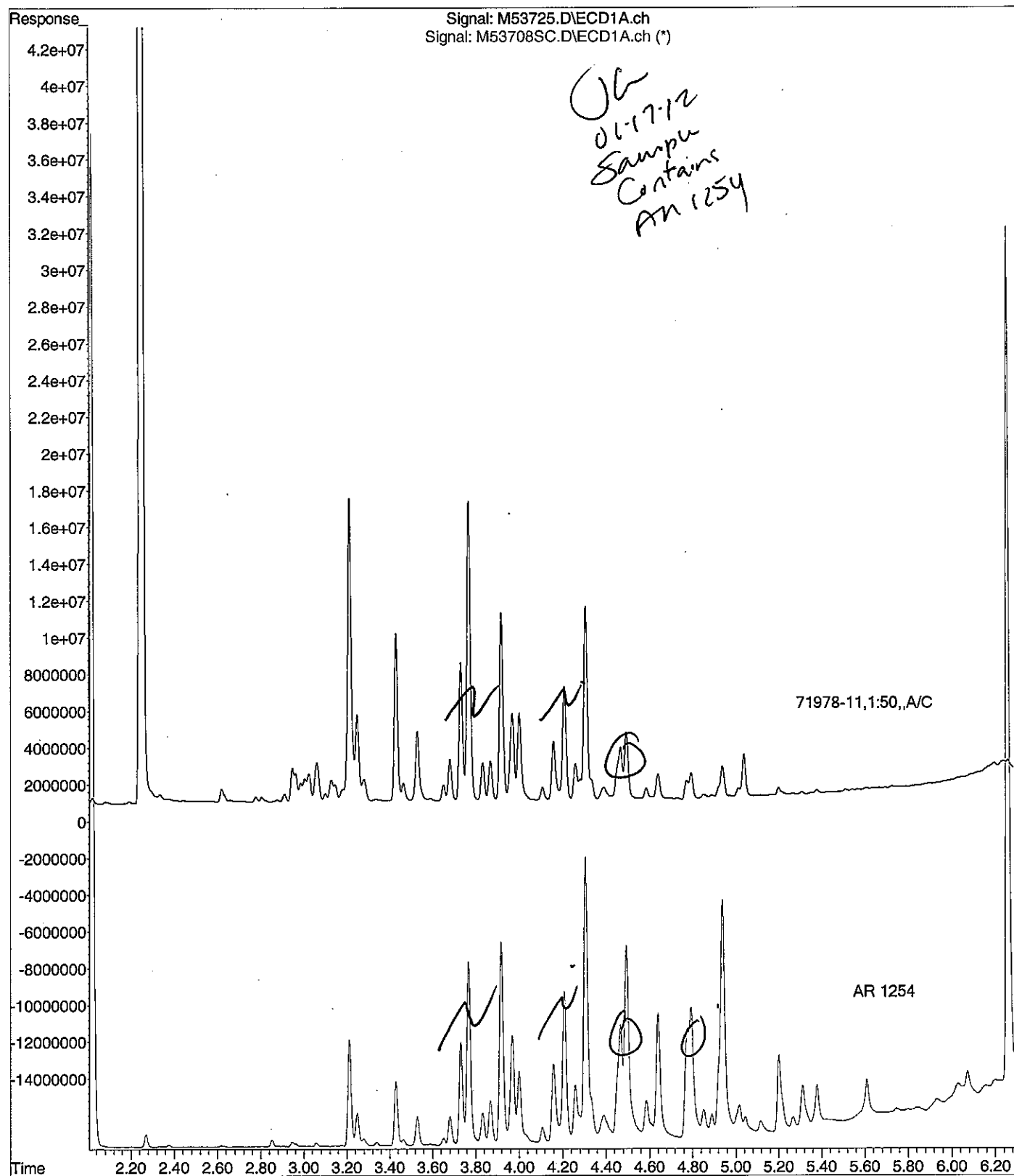
Data Path : C:\msdchem\1\DATA\011712-M\  
 Data File : M53725.D  
 Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch  
 Acq On : 17 Jan 2012 2:14 pm  
 Operator : JK  
 Sample : 71978-11,1:50,,A/C  
 Misc : SOIL  
 ALS Vial : 11 Sample Multiplier: 1

Integration File signal 1: events.e  
 Integration File signal 2: events2.e  
 Quant Time: Jan 17 14:22:17 2012  
 Quant Method : C:\msdchem\1\METHODS\PCB011112.M  
 Quant Title : SW-846 METHOD 8082 Aroclor 1016/1260/1254  
 QLast Update : Thu Jan 12 21:49:48 2012  
 Response via : Initial Calibration  
 Integrator: ChemStation

Volume Inj. : 2 uL  
 Signal #1 Phase : STX-CLPPesticides Signal #2 Phase: STX-CLPPesticides  
 Signal #1 Info : 30 m x 0.25mm x 0 Signal #2 Info : 30 m x 0.25mm x 0.25 um



File :C:\msdchem\1\DATA\011712-M\M53725.D  
Operator : JK  
Acquired : 17 Jan 2012 2:14 pm using AcqMethod PCB.M  
Instrument : Instrument M  
Sample Name: 71978-11,1:50,,A/C  
Misc Info : SOIL  
Vial Number: 11



*Handwritten signature:* 1/18/12



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**SAMPLE DATA**

**CLIENT SAMPLE ID**

**Project Name:** Peabody Terrace  
**Project Number:** 210980  
**Field Sample ID:** PTZ-CWT-121-2042

**Lab Sample ID:** 71978-12  
**Matrix:** Wipe  
**Percent Solid:** N/A  
**Dilution Factor:** 1.0  
**Collection Date:** 01/11/12  
**Lab Receipt Date:** 01/11/12  
**Extraction Date:** 01/11/12  
**Analysis Date:** 01/13/12

**PCB ANALYTICAL RESULTS**

COMPOUND	Quantitation Limit $\mu\text{g/wipe}$	Results $\mu\text{g/wipe}$
PCB-1016	0.5	U
PCB-1221	0.5	U
PCB-1232	0.5	U
PCB-1242	0.5	U
PCB-1248	0.5	U
PCB-1254	0.5	U
PCB-1260	0.5	U
PCB-1262	0.5	U
PCB-1268	0.5	U
<b>Surrogate Standard Recovery</b>		
2,4,5,6-Tetrachloro-m-xylene	94	%
Decachlorobiphenyl	87	%
U=Undetected J=Estimated E=Exceeds Calibration Range B=Detected in Blank		

**METHODOLOGY:** Sample analysis conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 8082.  
Sample preparation conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 3540C.  
Sample cleanup was conducted according to SW-846 Method 3665A.

**COMMENTS:**

PCB EXT Report

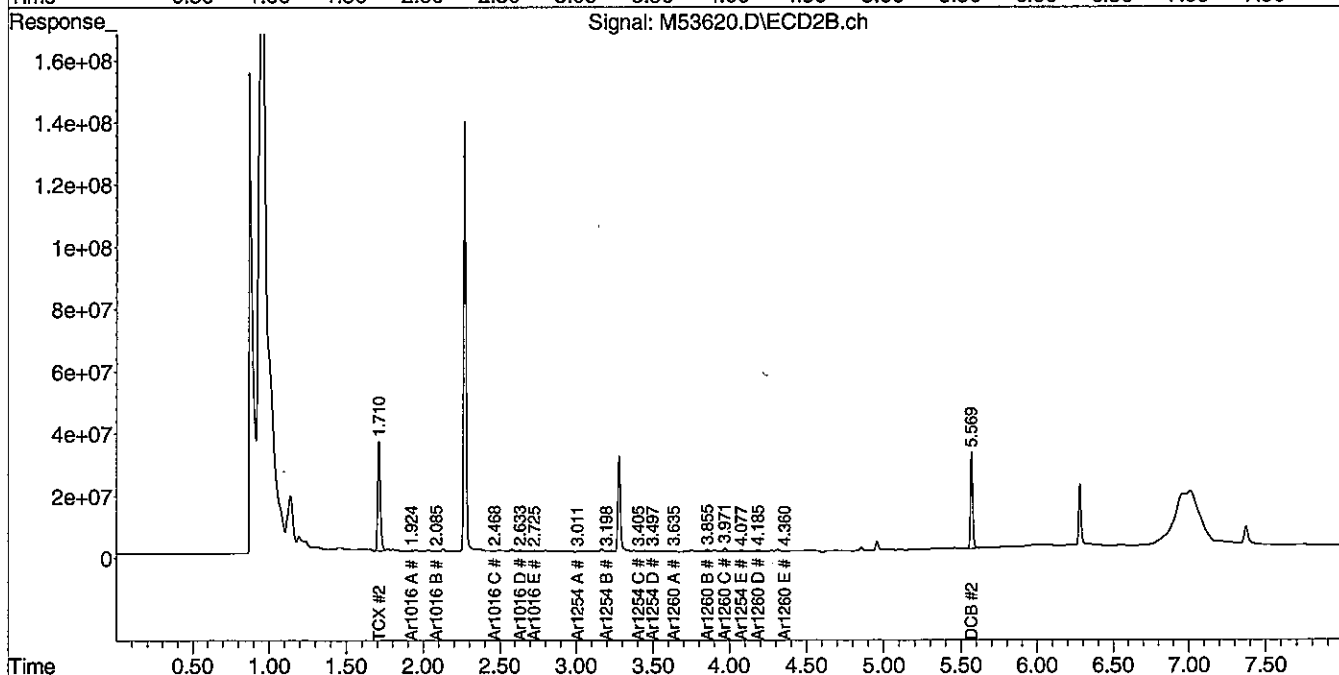
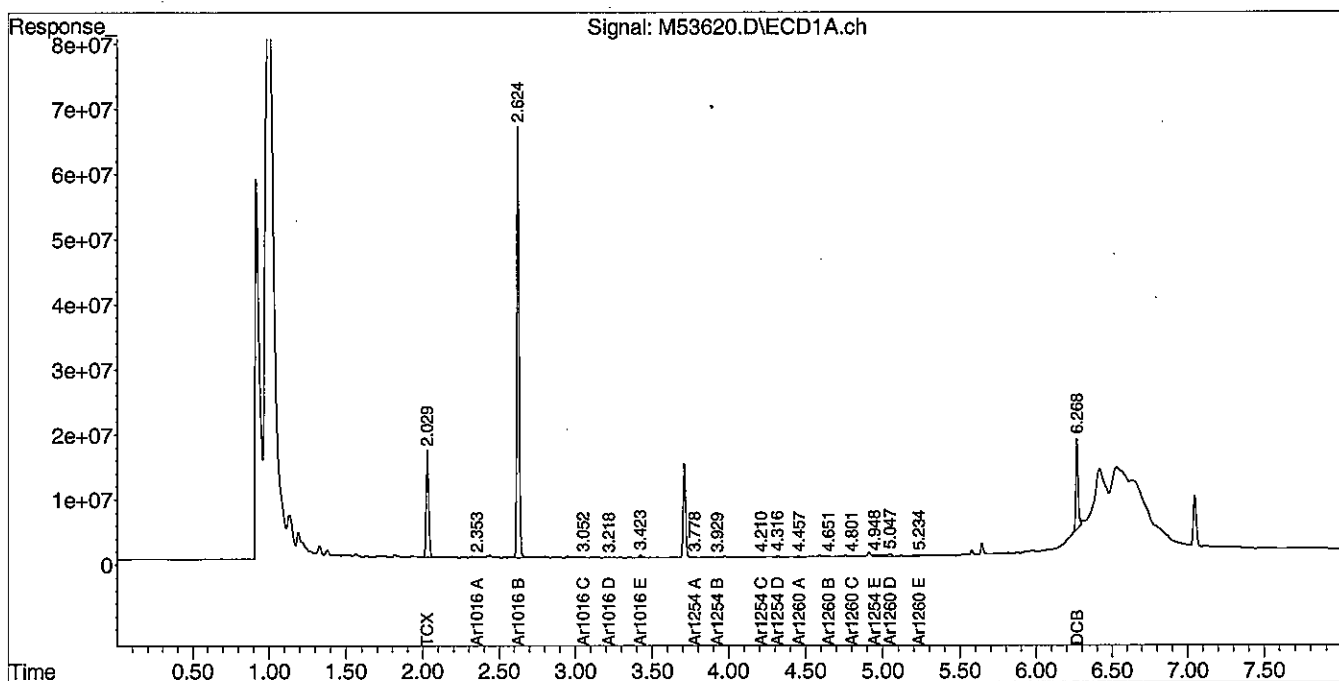
Authorized signature



Data Path : C:\msdchem\1\DATA\011312-M\  
 Data File : M53620.D  
 Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch  
 Acq On : 13 Jan 2012 3:51 pm  
 Operator : JL  
 Sample : 71978-12  
 Misc : SOIL  
 ALS Vial : 27 Sample Multiplier: 1

Integration File signal 1: events.e  
 Integration File signal 2: events2.e  
 Quant Time: Jan 14 03:23:59 2012  
 Quant Method : C:\msdchem\1\METHODS\PCB011112.M  
 Quant Title : SW-846 METHOD 8082 Aroclor 1016/1260/1254  
 QLast Update : Thu Jan 12 21:49:46 2012  
 Response via : Initial Calibration  
 Integrator: ChemStation

Volume Inj. : 2 uL  
 Signal #1 Phase : STX-CLPPesticides Signal #2 Phase: STX-CLPPesticides  
 Signal #1 Info : 30 m x 0.25mm x 0 Signal #2 Info : 30 m x 0.25mm x 0.25 um



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**SAMPLE DATA**

**CLIENT SAMPLE ID**  
**Project Name:** Peabody Terrace  
**Project Number:** 210980  
**Field Sample ID:** PTZ-CWW-121-2043

**Lab Sample ID:** 71978-13  
**Matrix:** Wipe  
**Percent Solid:** N/A  
**Dilution Factor:** 1.0  
**Collection Date:** 01/11/12  
**Lab Receipt Date:** 01/11/12  
**Extraction Date:** 01/11/12  
**Analysis Date:** 01/13/12

**PCB ANALYTICAL RESULTS**

COMPOUND	Quantitation Limit µg/wipe	Results µg/wipe
PCB-1016	0.5	U
PCB-1221	0.5	U
PCB-1232	0.5	U
PCB-1242	0.5	U
PCB-1248	0.5	U
PCB-1254	0.5	2.5
PCB-1260	0.5	U
PCB-1262	0.5	U
PCB-1268	0.5	U
<b>Surrogate Standard Recovery</b>		
2,4,5,6-Tetrachloro-m-xylene	91	%
Decachlorobiphenyl	90	%
U=Undetected J=Estimated E=Exceeds Calibration Range B=Detected in Blank		

**METHODOLOGY:** Sample analysis conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 8082.  
Sample preparation conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 3540C.  
Sample cleanup was conducted according to SW-846 Method 3665A.

**COMMENTS:**

PCB EXT Report

Authorized signature



PCB  
COLUMN RELATIVE PERCENT DIFFERENCE

Instrument ID: M

SDG:

GC Column #1: STX-CLPesticides I

Sample: 71978-13

Column ID: 0.25 mm

Data File: M53621.D

GC Column #2: STX-CLPesticides II

Dilution Factor: 1.0

Column ID: 0.25 mm

Column #1		Column #2		RPD	#
COMPOUND	SAMPLE RESULT (ug/wipe)	SAMPLE RESULT (ug/wipe)			
PCB 1254	2.5	2.5		0.1	

# Column to be used to flag RPD values greater than QC limit of 40%

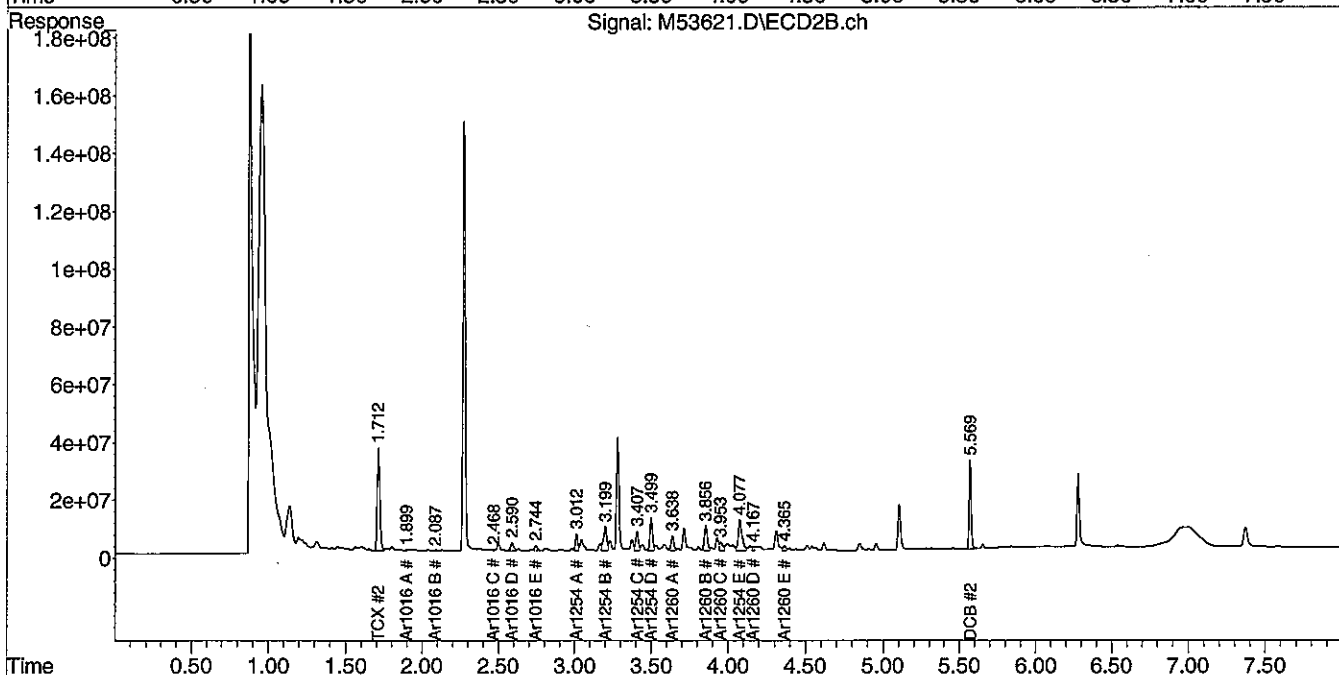
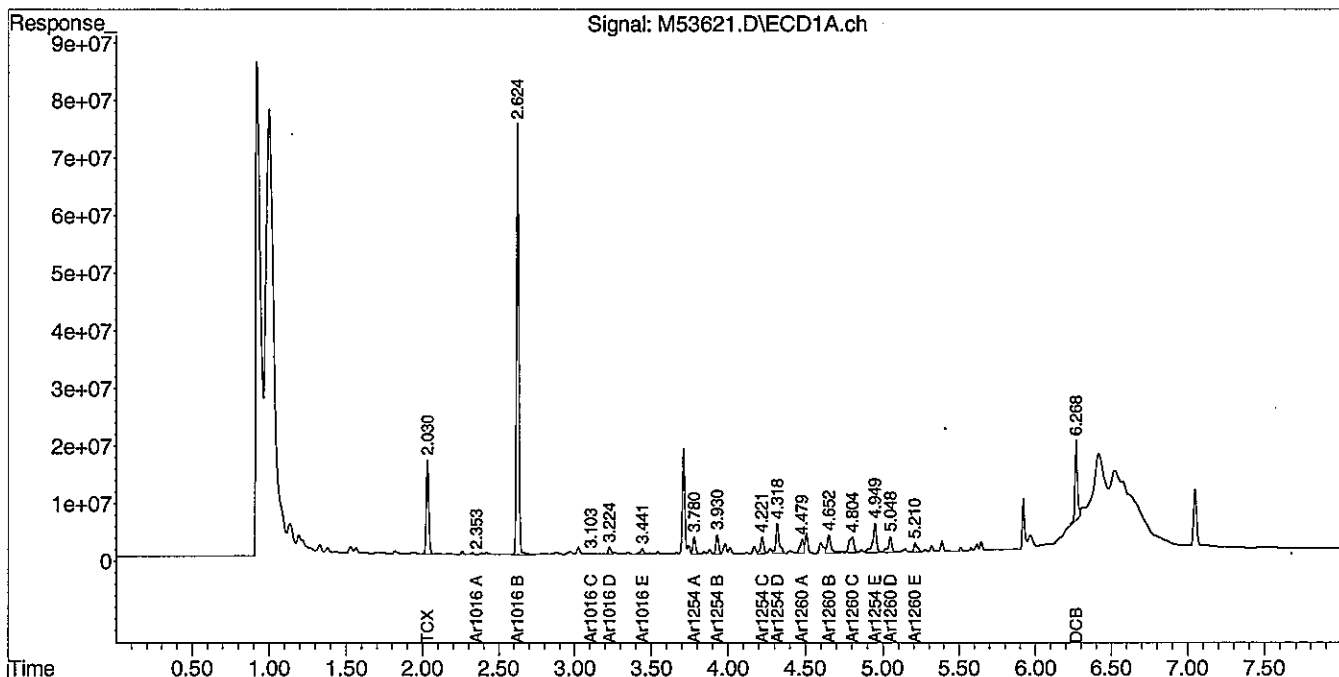
\* Values outside QC limits

Comments: \_\_\_\_\_

Data Path : C:\msdchem\1\DATA\011312-M\  
 Data File : M53621.D  
 Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch  
 Acq On : 13 Jan 2012 4:01 pm  
 Operator : JL  
 Sample : 71978-13  
 Misc : SOIL  
 ALS Vial : 28 Sample Multiplier: 1

Integration File signal 1: events.e  
 Integration File signal 2: events2.e  
 Quant Time: Jan 14 03:24:01 2012  
 Quant Method : C:\msdchem\1\METHODS\PCB011112.M  
 Quant Title : SW-846 METHOD 8082 Aroclor 1016/1260/1254  
 QLast Update : Thu Jan 12 21:49:46 2012  
 Response via : Initial Calibration  
 Integrator: ChemStation

Volume Inj. : 2 uL  
 Signal #1 Phase : STX-CLPPesticides Signal #2 Phase: STX-CLPPesticides  
 Signal #1 Info : 30 m x 0.25mm x 0 Signal #2 Info : 30 m x 0.25mm x 0.25 um



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January 18, 2012

**SAMPLE DATA**

**CLIENT SAMPLE ID**  
**Project Name:** Peabody Terrace  
**Project Number:** 210980  
**Field Sample ID:** PTZ-CWM-121-2044

**Lab Sample ID:** 71978-14  
**Matrix:** Wipe  
**Percent Solid:** N/A  
**Dilution Factor:** 1.0  
**Collection Date:** 01/11/12  
**Lab Receipt Date:** 01/11/12  
**Extraction Date:** 01/11/12  
**Analysis Date:** 01/13/12

**PCB ANALYTICAL RESULTS**

COMPOUND	Quantitation Limit $\mu\text{g/wipe}$	Results $\mu\text{g/wipe}$
PCB-1016	0.5	U
PCB-1221	0.5	U
PCB-1232	0.5	U
PCB-1242	0.5	U
PCB-1248	0.5	U
PCB-1254	0.5	U
PCB-1260	0.5	U
PCB-1262	0.5	U
PCB-1268	0.5	U
<b>Surrogate Standard Recovery</b>		
2,4,5,6-Tetrachloro-m-xylene	94	%
Decachlorobiphenyl	84	%
U=Undetected J=Estimated E=Exceeds Calibration Range B=Detected in Blank		

**METHODOLOGY:** Sample analysis conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 8082.  
Sample preparation conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 3540C.  
Sample cleanup was conducted according to SW-846 Method 3665A.

**COMMENTS:**

PCB EXT Report

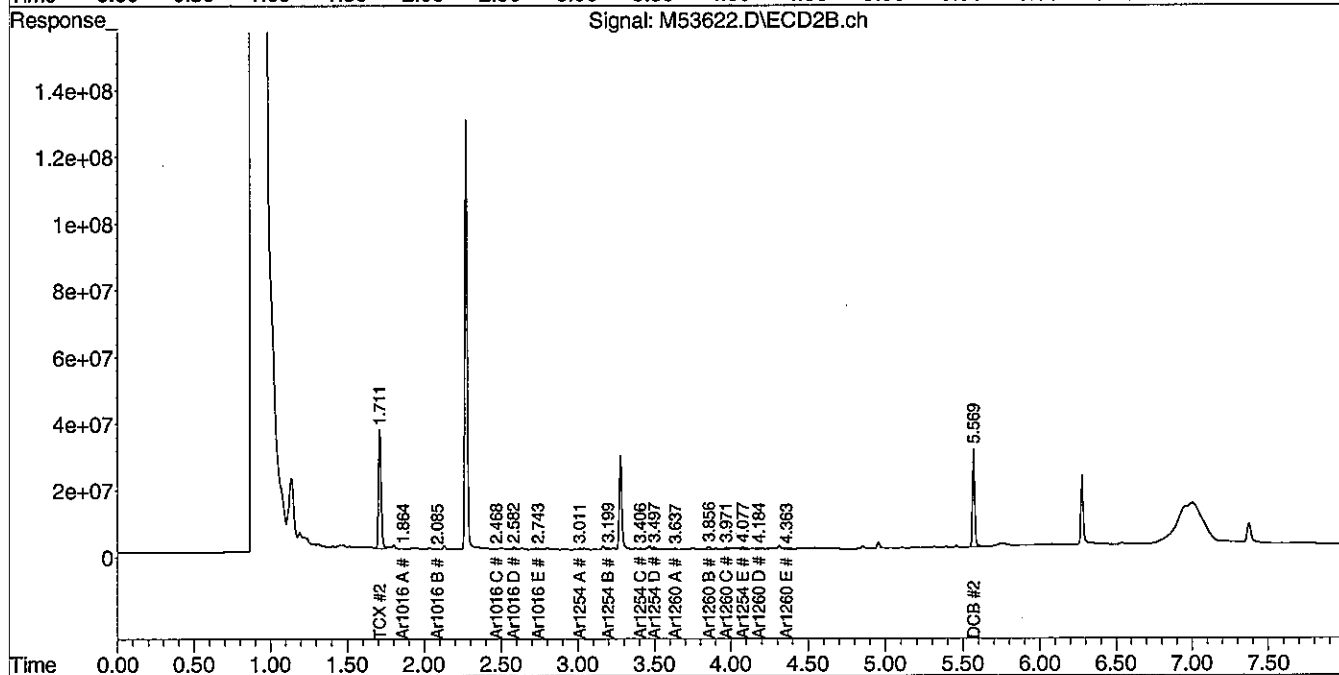
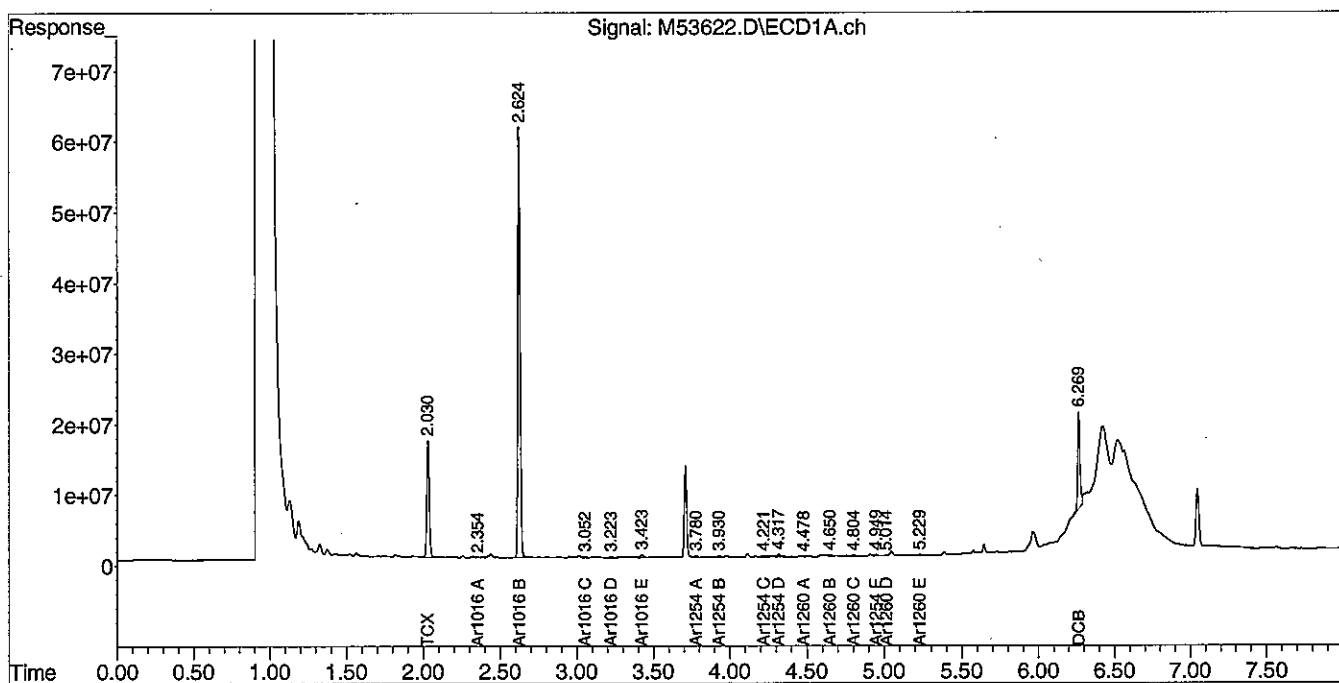
Authorized signature



Data Path : C:\msdchem\1\DATA\011312-M\  
 Data File : M53622.D  
 Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch  
 Acq On : 13 Jan 2012 4:11 pm  
 Operator : JL  
 Sample : 71978-14  
 Misc : SOIL  
 ALS Vial : 29 Sample Multiplier: 1

Integration File signal 1: events.e  
 Integration File signal 2: events2.e  
 Quant Time: Jan 14 03:24:03 2012  
 Quant Method : C:\msdchem\1\METHODS\PCB011112.M  
 Quant Title : SW-846 METHOD 8082 Aroclor 1016/1260/1254  
 QLast Update : Thu Jan 12 21:49:46 2012  
 Response via : Initial Calibration  
 Integrator: ChemStation

Volume Inj. : 2 uL  
 Signal #1 Phase : STX-CLPPesticides Signal #2 Phase: STX-CLPPesticides  
 Signal #1 Info : 30 m x 0.25mm x 0 Signal #2 Info : 30 m x 0.25mm x 0.25 um



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**SAMPLE DATA**

**CLIENT SAMPLE ID**

**Project Name:** Peabody Terrace  
**Project Number:** 210980  
**Field Sample ID:** PTZ-CWKQ-121-2047

**Lab Sample ID:** 71978-15  
**Matrix:** Wipe  
**Percent Solid:** N/A  
**Dilution Factor:** 1.0  
**Collection Date:** 01/11/12  
**Lab Receipt Date:** 01/11/12  
**Extraction Date:** 01/11/12  
**Analysis Date:** 01/13/12

**PCB ANALYTICAL RESULTS**

COMPOUND	Quantitation Limit $\mu\text{g/wipe}$	Results $\mu\text{g/wipe}$
PCB-1016	0.5	U
PCB-1221	0.5	U
PCB-1232	0.5	U
PCB-1242	0.5	U
PCB-1248	0.5	U
PCB-1254	0.5	1.0
PCB-1260	0.5	U
PCB-1262	0.5	U
PCB-1268	0.5	U
<b>Surrogate Standard Recovery</b>		
2,4,5,6-Tetrachloro-m-xylene	91	%
Decachlorobiphenyl	97	%
U=Undetected J=Estimated E=Exceeds Calibration Range B=Detected in Blank		

**METHODOLOGY:** Sample analysis conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 8082.  
Sample preparation conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 3540C.  
Sample cleanup was conducted according to SW-846 Method 3665A.

**COMMENTS:**



PCB  
COLUMN RELATIVE PERCENT DIFFERENCE

Instrument ID: M  
GC Column #1: STX-CLPesticides I  
Column ID: 0.25 mm  
GC Column #2: STX-CLPesticides II  
Column ID: 0.25 mm

SDG:  
Sample: 71978-15  
Data File: M53623.D  
Dilution Factor: 1.0

COMPOUND	Column #1	Column #2	RPD		#
	SAMPLE RESULT (ug/wipe)	SAMPLE RESULT (ug/wipe)			
PCB 1254	1.0	1.0	7.7		

# Column to be used to flag RPD values greater than QC limit of 40%

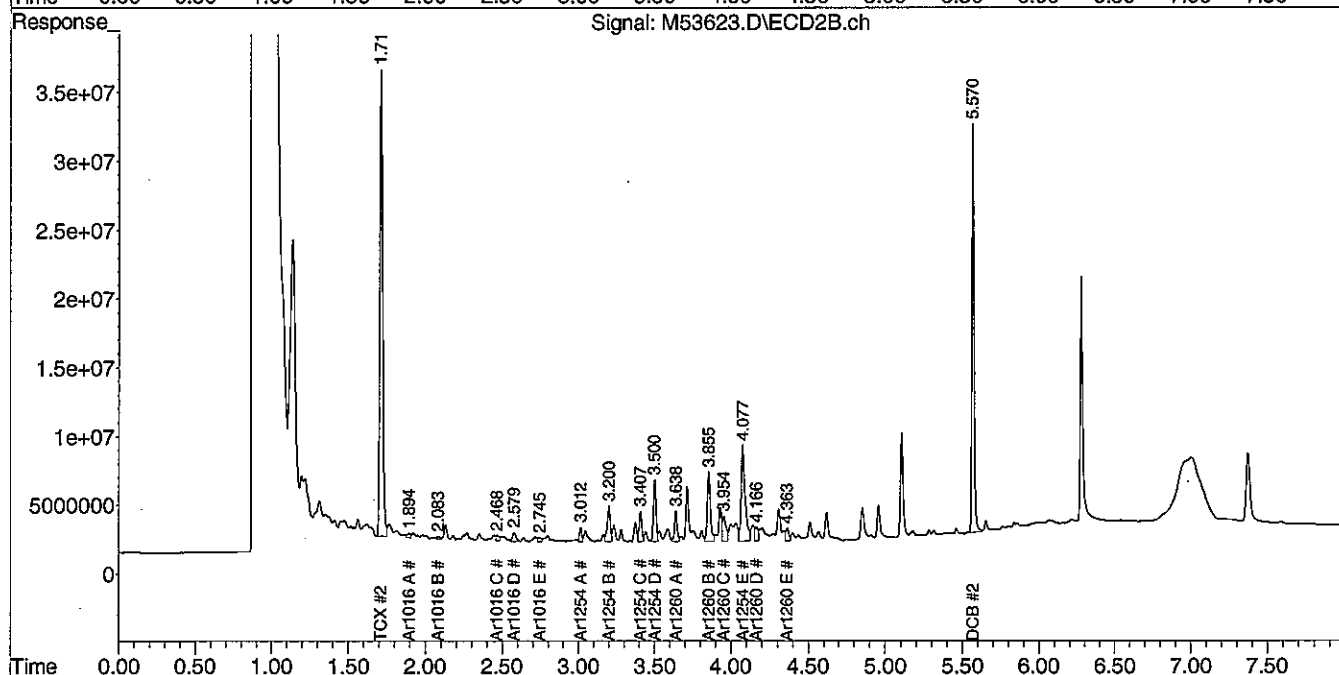
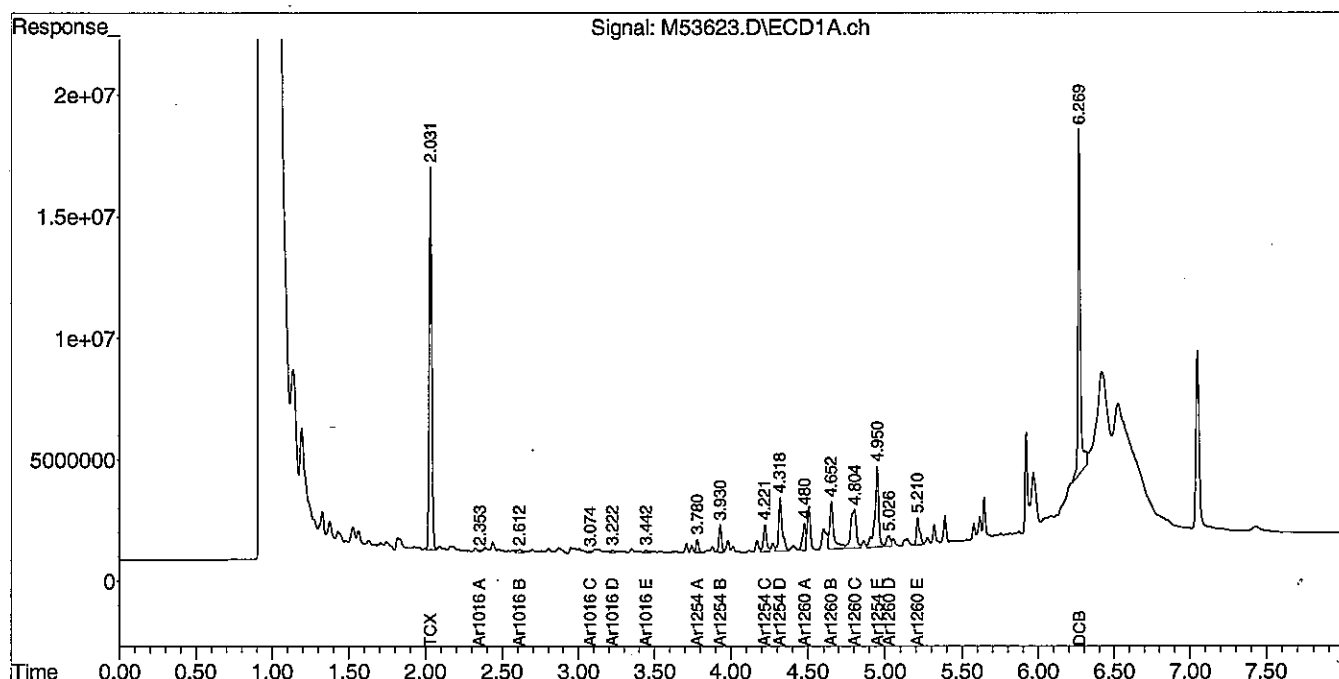
\* Values outside QC limits

Comments: \_\_\_\_\_

Data Path : C:\msdchem\1\DATA\011312-M\  
 Data File : M53623.D  
 Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch  
 Acq On : 13 Jan 2012 4:21 pm  
 Operator : JL  
 Sample : 71978-15  
 Misc : SOIL  
 ALS Vial : 30 Sample Multiplier: 1

Integration File signal 1: events.e  
 Integration File signal 2: events2.e  
 Quant Time: Jan 14 03:24:05 2012  
 Quant Method : C:\msdchem\1\METHODS\PCB011112.M  
 Quant Title : SW-846 METHOD 8082 Aroclor 1016/1260/1254  
 QLast Update : Thu Jan 12 21:49:46 2012  
 Response via : Initial Calibration  
 Integrator: ChemStation

Volume Inj. : 2 uL  
 Signal #1 Phase : STX-CLPPesticides Signal #2 Phase: STX-CLPPesticides  
 Signal #1 Info : 30 m x 0.25mm x 0 Signal #2 Info : 30 m x 0.25mm x 0.25 um



PCB  
QC FORMS





## SDG: 71978

Analytics Report <sup>PCB FORM 2</sup> 71978 page 0058 of 64

PCB SOIL  
LABORATORY CONTROL SAMPLE/DUPLICATE  
PERCENT RECOVERY

Instrument ID: M

GC Column #1: STX-CLPesticides I

Column ID: 0.25 mm

GC Column #2: STX-CLPesticides II

Column ID: 0.25 mm

SDG:

Non-spiked sample: B011112PSOXW

Spike: L011112PSOXW

Spike duplicate: LD011112PSOXW

	LCS SPIKE	LCSD SPIKE	LOWER	UPPER	RPD	NON-SPIKE	SPIKE	SPIKE		SPIKE DUP		SPIKE DUP			
COMPOUND	ADDED (ug/kg)	ADDED (ug/kg)	LIMIT	LIMIT	LIMIT	RESULT (ug/kg)	RESULT (ug/kg)	% REC	#	RESULT (ug/kg)	% REC	#	RPD	#	
PCB 1016	200	200	65	140	30	0	158	79		188	94		17.1		
PCB 1260	200	200	60	130	30	0	183	91		189	95		3.6		
PCB 1016 #2	200	200	65	140	30	0	141	70		153	76		8.1		
PCB 1260 #2	200	200	60	130	30	0	177	88		187	94		5.7		

# Column to be used to flag recovery and RPD values outside of QC limits

\* Values outside QC limits

LCS/LCSD spike added values have been weight adjusted.

Non-spike result of "0" used in place of "U" to allow calculation of spike recovery.

Comments: \_\_\_\_\_  
\_\_\_\_\_

PCB SOIL  
LABORATORY CONTROL SAMPLE/DUPLICATE  
PERCENT RECOVERY

Instrument ID: M

GC Column #1: STX-CLPesticides I

Column ID: 0.25 mm

GC Column #2: STX-CLPesticides II

Column ID: 0.25 mm

SDG: 71978

Non-spiked sample: B011112PSOX

Spike: L011112PSOX

Spike duplicate: LD011112PSOX

	LCS SPIKE	LCSD SPIKE	LOWER	UPPER	RPD	NON-SPIKE	SPIKE	SPIKE		SPIKE DUP		SPIKE DUP			
COMPOUND	ADDED (ug/kg)	ADDED (ug/kg)	LIMIT	LIMIT	LIMIT	RESULT (ug/kg)	RESULT (ug/kg)	% REC	#	RESULT (ug/kg)	% REC	#	RPD	#	
PCB 1016	200	200	65	140	30	0	113	57	*	132	66		15.2		
PCB 1260	200	200	60	130	30	0	122	61		140	70		13.7		
PCB 1016 #2	200	200	65	140	30	0	145	73		142	71		2.6		
PCB 1260 #2	200	200	60	130	30	0	118	59	*	135	68		13.8		

# Column to be used to flag recovery and RPD values outside of QC limits

\* Values outside QC limits

LCS/LCSD spike added values have been weight adjusted.

Non-spike result of "0" used in place of "U" to allow calculation of spike recovery.

Comments: \_\_\_\_\_

\_\_\_\_\_



## CHAIN OF CUSTODIES

# Chain Of Custody Form

<b>environmental laboratory LLC</b> 195 Commerce Way Suite E Portsmouth, NH 03801 Phone (803) 438-5111 Fax (803) 430-2151		<b>For Analytics Use Only Rev. 4 03/28/08</b>  Samples were: 1) Shipped of hand-delivered 2) Temp blank °C <u>4.7</u> 3) Received in good condition <u>Y</u> or N 4) pH checked by: <u>WFA</u> 5) Labels checked by: <u>8/11/12</u>		Received By: <u>[Signature]</u> Date: <u>8/11/12</u> Time: <u>1:15</u>
Project# <u>210980</u> Proj. Name: <u>Peabody Terrace</u> Company: <u>Woodard &amp; Curran</u> Contact: <u>Amy Wallace</u> Address: <u>41 Hutchins Drive</u> <u>Portland Maine</u> Phone: <u>207-774-2112</u> Quote # Sampler (Signature): <u>[Signature]</u>		Matrix Key: C = Concrete WP = Wipe WW = Wastewater SW = Surface Water GW = Groundwater DW = Drinking Water S = Soil/Sludge O = Oil E = Extract X = Other		Received By: <u>[Signature]</u> Date: <u>8/11/12</u> Time: <u>1:15</u>
Station Identification PTD-CBK-632-2030 PTD-CWK-632-2031 PTD-CWK-632-2032 PTD-CWT-632-2033 PTD-CWT-632-2034 PTD-CWW-632-2035 PTD-CWM-632-2036 PTZ-CWK-121-2038 PTZ-CWK-121-2039 PTZ-CWK-121-2040 PTZ-CBK-121-2041		Analysis PCBs PCBs PCBs PCBs PCBs PCBs PCBs PCBs PCBs PCBs PCBs		Received By: <u>[Signature]</u> Date: <u>8/11/12</u> Time: <u>1:15</u>
Email Results to: <u>shamela@woodardcurran.com</u> <u>AWallace@</u> <u>JWallace@</u>		Project Requirements: State: <u>NH</u> Report Type: <u>MCP</u> Level II <u>X</u> CTRC <u>X</u> Level III <u>X</u> DOD <u>X</u> Level IV <u>X</u> Standard <u>X</u> Other:		Received By: <u>[Signature]</u> Date: <u>8/11/12</u> Time: <u>1:15</u>
Turnaround Request Priority <input type="checkbox"/> Due Date <u>8/11/12</u>		State Standard: <u>(eg. S-1 or GW-1)</u> EDD Required: <u>Y</u> or N Type: <u>GIS Key</u>		Received By: <u>[Signature]</u> Date: <u>8/11/12</u> Time: <u>1:15</u>
Lab Approval Required <u>[Signature]</u>		Page <u>1</u> of <u>1</u>		Received By: <u>[Signature]</u> Date: <u>8/11/12</u> Time: <u>1:15</u>

[illegible]

ANALYTICS SAMPLE RECEIPT CHECKLIST

AEL LAB#: 71978  
 CLIENT: Woodward & Curran  
 PROJECT: Peabody Terrain

COOLER NUMBER: 267/261  
 NUMBER OF COOLERS: 2

**A: PRELIMINARY EXAMINATION:**

1. Cooler received by (initials): DW DATE COOLER RECEIVED/OPENED: 1/11/12

2. Circle one: Hand delivered (If so, skip 3) Shipped  
 3. Did cooler come with a shipping slip? Y (N/A)

3a. Enter carrier name and airbill number here: \_\_\_\_\_

4. Were custody seals on the outside of cooler? Y (N/A)  
 How many & where: \_\_\_\_\_ Seal Date: \_\_\_\_\_ Seal Name: \_\_\_\_\_

5. Did the custody seals arrive unbroken and intact upon arrival? Y (N/A)

6. COC#: N/A

7. Were Custody papers filled out properly (ink, signed, legible, project information etc)? (Y) N

8. Were custody papers sealed in a plastic bag? Y (N)

9. Did you sign the COC in the appropriate place? (Y) N

10. Was enough ice used to chill the cooler? (Y) N Temp. of cooler: 4.4 - 4.7

B. Log-In: Date samples were logged in: 1/11/12 By: DW

11. Were all bottles sealed in separate plastic bags? Y (N)

12. Did all bottles arrive unbroken and were labels in good condition? (Y) N

13. Were all bottle labels complete (ID, Date, time, etc.) (Y) N

14. Did all bottle labels agree with custody papers? (Y) N

15. Were the correct containers used for the tests indicated? (Y) N

16. Were samples received at the correct pH? Y (N/A)

17. Was sufficient amount of sample sent for the tests indicated? (Y) N

18. Were all samples submitted within holding time? (Y) N

19. Were bubbles absent in VOA samples? Y (N/A)

If NO, List Sample ID's, Lab #s, and the size of the bubble(s): \_\_\_\_\_

\*When bubbles are present in VOA samples they are labelled from smallest (or no bubbles) to largest. Lab to analyze VOA samples with no bubbles or smallest bubbles first

20. Laboratory labeling verified by (initials): [Signature] Date: 1/11/12

January 24, 2012

Ms. Amy Wallace  
Woodard & Curran  
41 Hutchins Drive  
Portland ME 04102

**RE:        Analytical Results Case Narrative**  
             **Analytics # 72004**  
             **Peabody Terrace Project No: 210980**

Dear Ms. Wallace;

Enclosed please find the analytical results for samples submitted for the above-mentioned project. The attached Cover Page lists the sample IDs, Lab tracking numbers and collection dates for the samples included in this deliverable.

Samples were analyzed for Polychlorinated Biphenyls (PCBs) by EPA Method 8082.

Unless otherwise noted in the Non-conformance Summary listed below, all of the quality control (QC) criteria including initial calibration, calibration verification, surrogate recovery, holding time and method accuracy/precision for these analyses were within acceptable limits.

This Level II data package has been assembled in the following order:

- Case Narrative/Non-Conformance Summary
- Sample Log Sheet - Cover Page
- PCB Form 1 Data Sheet for Samples and Blanks
- Chromatograms
- PCB Form 10 Confirmation Results
- PCB Form 3 MS/MSD (LCS) Recoveries
- Chain of Custody (COC) Forms

## QC NON-CONFORMANCE SUMMARY

**Sample Receipt:**

No exceptions.

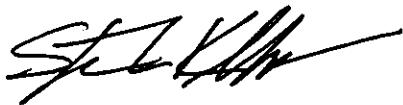
**PCBs by EPA Method 8082:**

No results were reported below the quantitation limit.

Sample 72004-2 thru 72004-5 and 72004-7 required a dilution due to concentrations of PCBs that exceeded the calibration range of the instrument.

If you have any questions on these results, please do not hesitate to contact me.

Sincerely,  
ANALYTICS Environmental Laboratory, LLC



Stephen L. Knollmeyer  
Laboratory Director

Ms. Amy Wallace  
Woodard & Curran  
41 Hutchins Drive  
Portland ME 04102

**Report Number: 72004**

**Revision: Rev. 0**

**Re: Peabody Terrace (Project No: 210980)**

Enclosed are the results of the analyses on your sample(s). Samples were received on 17 January 2012 and analyzed for the tests listed. Samples were received in acceptable condition, with the exceptions noted below or on the chain of custody. These results pertain to samples as received by the laboratory and for the analytical tests requested on the chain of custody. The results reported herein conform to the most current NELAC standards, where applicable, unless otherwise narrated in the body of the report. Please see individual reports for specific methodologies and references.

**Sample Analysis:** The attached pages detail the Client Sample IDs, Lab Sample IDs, and Analyses requested

**Sample Receipt Exceptions:** None

Analytics Environmental Laboratory is certified by the states of New Hampshire, Maine, Massachusetts, Connecticut, Rhode Island, Virginia, Maryland, North Carolina, and is accredited by the Department of Defense (DOD) ELAP program. A list of actual certified parameters is available upon request.

If you have any questions on these results, please do not hesitate to contact us.

Authorized signature

  
Stephen L. Knollmeyer Lab. Director

Date

1/24/2012

**This report shall not be reproduced, except in full, without the written consent of Analytics Environmental Laboratory, LLC.**

**CLIENT: Woodard & Curran**

**REPORT NUMBER: 72004**

**REV: Rev. 0**

**PROJECT: Peabody Terrace (Project No: 210980)**

---

<u>Lab Number</u>	<u>Sample Date</u>	<u>Station Location</u>	<u>Analysis</u>	<u>Comments</u>
72004-1	01/17/12	PTD-CBK-621-2316	EPA 8082 (PCBs only)	
72004-2	01/17/12	PTD-CBK-621-2317	EPA 8082 (PCBs only)	
72004-3	01/17/12	PTD-CBK-822-2318	EPA 8082 (PCBs only)	
72004-4	01/17/12	PTD-CBK-922-2319	EPA 8082 (PCBs only)	
72004-5	01/17/12	PTD-CBK-922-2320	EPA 8082 (PCBs only)	
72004-6	01/17/12	PTD-CBKD-922-2321	EPA 8082 (PCBs only)	
72004-7	01/17/12	PTD-CBK-W-2322	EPA 8082 (PCBs only)	
72004-8	01/17/12	PTD-CBKQ-W-2326	Electronic Data Deliverable	
	01/17/12	PTD-CBKQ-W-2326	EPA 8082 (PCBs only)	



**MassDEP Analytical Protocol Certification Form**

Laboratory Name: Analytics Environmental Laboratory, LLC

Project #: 72004

Project Location: Peabody Terrace

RTN:

**This Form provides certifications for the following data set. Laboratory Sample ID Number(s):**

72004-1 through 72004-8

 Matrices: ☒ Groundwater/Surface Water ☒ Soil/Sediment ☐ Drinking Water ☐ Air ☐ Other

**CAM Protocol** (check all that apply below):

8260 VOC CAM II A <input type="checkbox"/>	7470/7471 Hg CAM III B <input type="checkbox"/>	MassDEP VPH CAM IV A <input type="checkbox"/>	8081 Pesticides CAM V B <input type="checkbox"/>	7196 Hex Cr CAM VI B <input type="checkbox"/>	MassDEP APH CAM IX A <input type="checkbox"/>
8270 SVOC CAM II B <input type="checkbox"/>	7010 Metals CAM III C <input type="checkbox"/>	MassDEP EPH CAM IV B <input type="checkbox"/>	8151 Herbicides CAM V C <input type="checkbox"/>	8330 Explosives CAM VIII A <input type="checkbox"/>	TO-15 VOC CAM IX B <input type="checkbox"/>
6010 Metals CAM III A <input type="checkbox"/>	6020 Metals CAM III D <input type="checkbox"/>	8082 PCB CAM V A <input checked="" type="checkbox"/>	9014 Total Cyanide/PAC CAM VI A <input type="checkbox"/>	6860 Perchlorate CAM VIII B <input type="checkbox"/>	

**Affirmative Responses to Questions A through F are required for "Presumptive Certainty" status**

<b>A</b>	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
<b>B</b>	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
<b>C</b>	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
<b>D</b>	Does the laboratory report comply with all reporting requirements specified in CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data"?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
<b>E</b>	a. VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? (Refer to individual method(s) for a list of significant modifications). b. APH and TO-15 Methods only: Was the complete analyte list reported for each method?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Yes <input type="checkbox"/> No
<b>F</b>	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No

**Responses to Questions G, H and I below are required for "Presumptive Certainty" status**

<b>G</b>	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <sup>1</sup>
----------	---	--

**Data User Note: Data that achieve "Presumptive Certainty" status may not necessarily meet the data usability and representativeness requirements described in 310 CMR 40.1056 (2)(k) and WSC-07-350.**

<b>H</b>	Were ALL QC performance standards specified in the CAM protocol(s) achieved?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <sup>1</sup>
<b>I</b>	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <sup>1</sup>

<sup>1</sup> All negative responses must be addressed in an attached laboratory narrative.

**I, the undersigned, attest under the pains and penalties of perjury that, based upon my personal inquiry of those responsible for obtaining the information, the material contained in this analytical report is, to the best of my knowledge and belief, accurate and complete.**

Signature:



Position: Laboratory Director

Printed Name: Stephen L. Knollmeyer

Date: January 24, 2012

### Surrogate Compound Limits

	Matrix: Units:	Aqueous % Recovery	Solid % Recovery	Method
<b>Volatile Organic Compounds - Drinking Water</b>				
1,4-Difluorobenzene		70-130		EPA 524.2
Bromofluorobenzene		70-130		
1,2-Dichlorobenzene-d4		70-130		
<b>Volatile Organic Compounds</b>				
1,2-Dichloroethane-d4		70-120	70-120	EPA 624/8260B
Toluene-d8		85-120	85-120	
Bromofluorobenzene		75-120	75-120	
<b>Semi-Volatile Organic Compounds</b>				
2-Fluorophenol		20-110	35-105	EPA 625/8270C
d5-Phenol		15-110	40-100	
d5-nitrobenzene		40-110	35-100	
2-Fluorobiphenyl		50-110	45-105	
2,4,6-Tribromophenol		40-110	40-125	
d14-p-terphenyl		50-130	30-125	
<b>PAH's by SIM</b>				
d5-nitrobenzene		21-110	35-110	EPA 8270C
2-Fluorobiphenyl		36-121	45-105	
d14-p-terphenyl		33-141	30-125	
<b>Pesticides and PCBs</b>				
2,4,5,6-Tetrachloro-m-xylene (TCX)		46-122	40-130	EPA 608/8082
Decachlorobiphenyl (DCB)		40-135	40-130	
<b>Herbicides</b>				
Dichloroacetic acid (DCAA)		30-150	30-150	
<b>Gasoline Range Organics/TPH Gasoline</b>				
Trifluorotoluene TFT (FID)		60-140	60-140	MEDEP 4217/EPA 8015
Bromofluorobenzene (BFB) (FID)		60-140	60-140	
Trifluorotoluene TFT (PID)		60-140	60-140	
Bromofluorobenzene (BFB) (PID)		60-140	60-140	
<b>Diesel Range Organics/TPH Diesel</b>				
m-terphenyl		60-140	60-140	MEDEP 4125/EPA 8015/CT ETPH
<b>Volatile Petroleum Hydrocarbons</b>				
2,5-Dibromotoluene (PID)		70-130	70-130	MADEP VPH May 2004 Rev1.1
2,5-Dibromotoluene (FID)		70-130	70-130	
<b>Extracatable Petroleum Hydrocarbons</b>				
1-chloro-octadecane (aliphatic)		40-140	40-140	MADEP EPH May 2004 Rev1.1
o-Terphenyl (aromatic)		40-140	40-140	
2-Fluorobiphenyl (Fractionation)		40-140	40-140	
2-Bromonaphthalene (fractionation)		40-140	40-140	

## PCB DATA SUMMARIES

Ms. Amy Wallace  
Woodard & Curran  
41 Hutchins Drive  
Portland ME 04102

January 23, 2012

**SAMPLE DATA**

**CLIENT SAMPLE ID**

**Project Name:** Peabody Terrace

**Project Number:** 210980

**Field Sample ID:** Lab QC

**Lab Sample ID:** B011912PSOX

**Matrix:** Soil

**Percent Solid:** 100

**Dilution Factor:** 1.0

**Collection Date:**

**Lab Receipt Date:**

**Extraction Date:** 01/19/12

**Analysis Date:** 01/20/12

**PCB ANALYTICAL RESULTS**

COMPOUND	Quantitation Limit $\mu\text{g/kg}$	Results $\mu\text{g/kg}$
PCB-1016	33	U
PCB-1221	33	U
PCB-1232	33	U
PCB-1242	33	U
PCB-1248	33	U
PCB-1254	33	U
PCB-1260	33	U
PCB-1262	33	U
PCB-1268	33	U
<b><u>Surrogate Standard Recovery</u></b>		
2,4,5,6-Tetrachloro-m-xylene	86	%
Decachlorobiphenyl	78	%
U=Undetected J=Estimated E=Exceeds Calibration Range B=Detected in Blank		

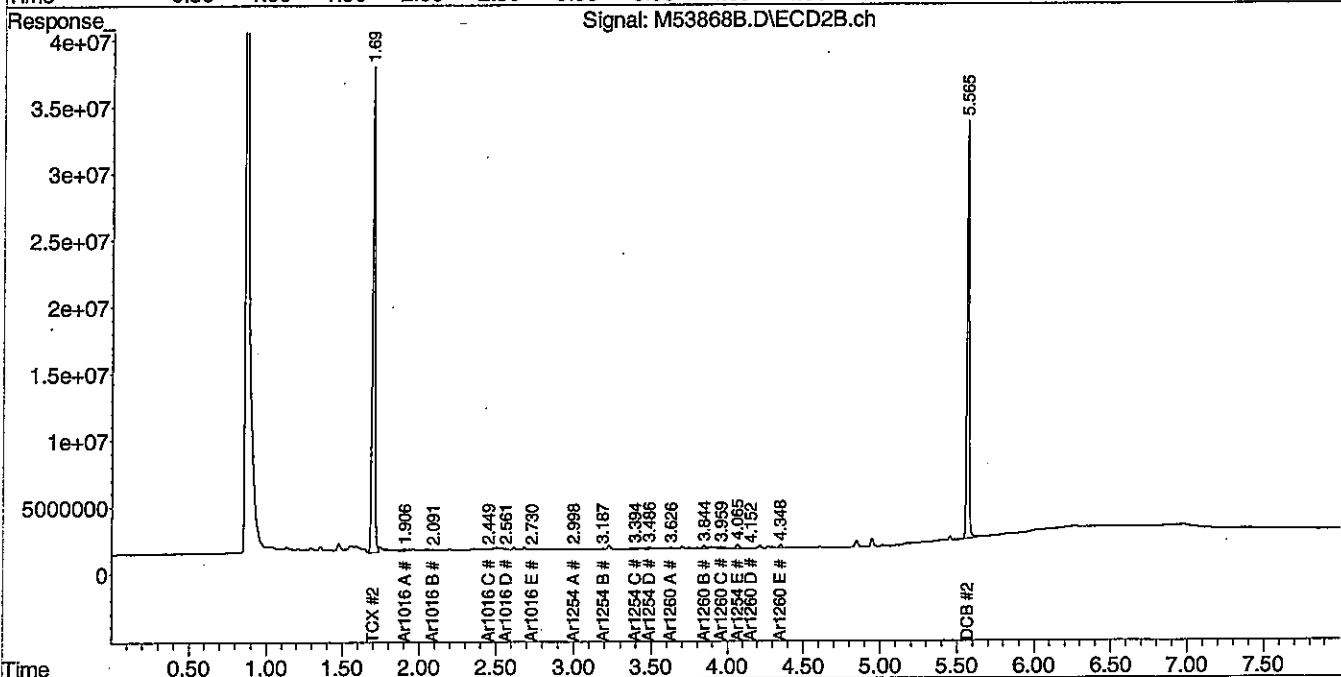
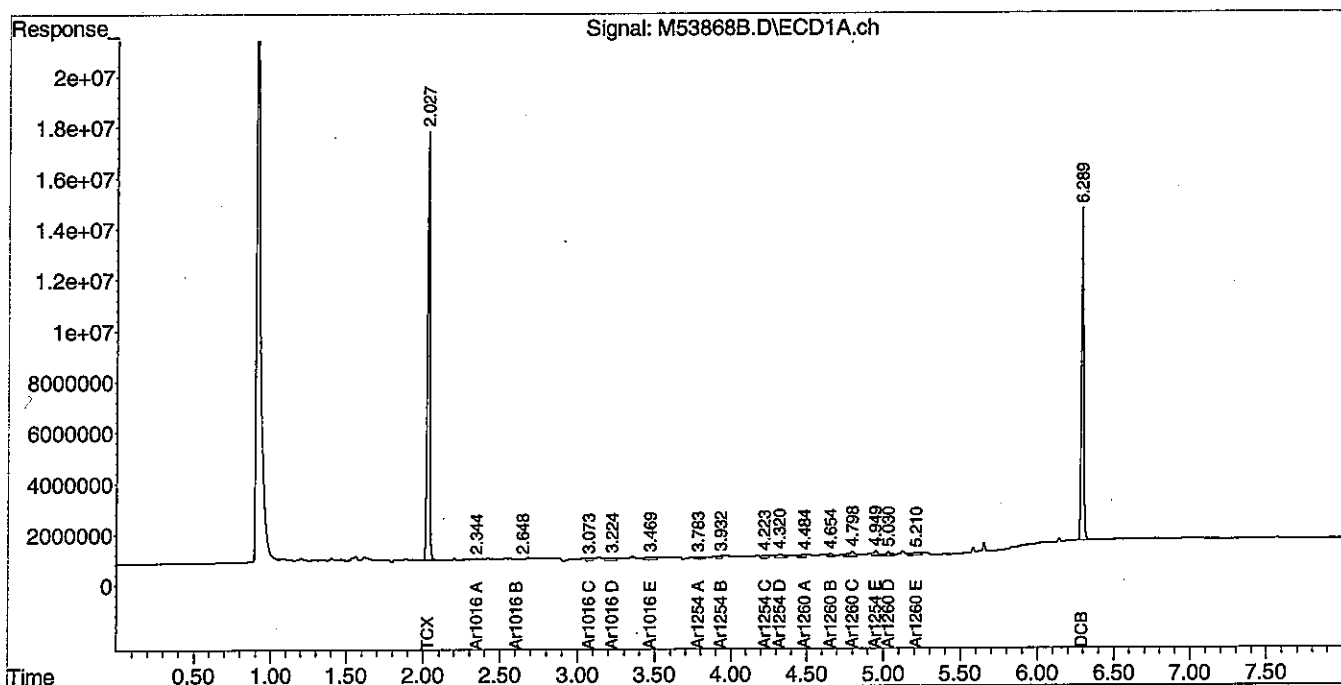
**METHODOLOGY:** Sample analysis conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 8082.  
Sample preparation conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 3540C.  
Sample cleanup was conducted according to SW-846 Method 3665A.

**COMMENTS:** Results are expressed on a dry weight basis.

Data Path : C:\msdchem\1\DATA\012012-M\  
 Data File : M53868B.D  
 Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch  
 Acq On : 20 Jan 2012 12:31 pm  
 Operator : JK  
 Sample : B011912PSOX,,A/C  
 Misc : SOIL  
 ALS Vial : 6 Sample Multiplier: 1

Integration File signal 1: events.e  
 Integration File signal 2: events2.e  
 Quant Time: Jan 20 14:44:44 2012  
 Quant Method : C:\msdchem\1\METHODS\PCB011112.M  
 Quant Title : SW-846 METHOD 8082 Aroclor 1016/1260/1254  
 QLast Update : Fri Jan 20 10:38:36 2012  
 Response via : Initial Calibration  
 Integrator: ChemStation

Volume Inj. : 2 uL  
 Signal #1 Phase : STX-CLPPesticides Signal #2 Phase: STX-CLPPesticides  
 Signal #1 Info : 30 m x 0.25mm x 0 Signal #2 Info : 30 m x 0.25mm x 0.25 um



Ms. Amy Wallace  
Woodard & Curran  
41 Hutchins Drive  
Portland ME 04102

January 23, 2012

**SAMPLE DATA**

**CLIENT SAMPLE ID**  
**Project Name:** Peabody Terrace  
**Project Number:** 210980  
**Field Sample ID:** Lab QC

**Lab Sample ID:** B012012PW  
**Matrix:** Aqueous  
**Percent Solid:** N/A  
**Dilution Factor:** 1.0  
**Collection Date:**  
**Lab Receipt Date:**  
**Extraction Date:** 01/20/12  
**Analysis Date:** 01/23/12

PCB ANALYTICAL RESULTS		
COMPOUND	Quantitation Limit µg/L	Results µg/L
PCB-1016	0.2	U
PCB-1221	0.2	U
PCB-1232	0.2	U
PCB-1242	0.2	U
PCB-1248	0.2	U
PCB-1254	0.2	U
PCB-1260	0.2	U
PCB-1262	0.2	U
PCB-1268	0.2	U
<b>Surrogate Standard Recovery</b>		
2,4,5,6-Tetrachloro-m-xylene	101	%
Decachlorobiphenyl	91	%
U=Undetected J=Estimated E=Exceeds Calibration Range B=Detected in Blank		

METHODOLOGY: Sample analysis conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 8082.

COMMENTS:

PCB EXT Report

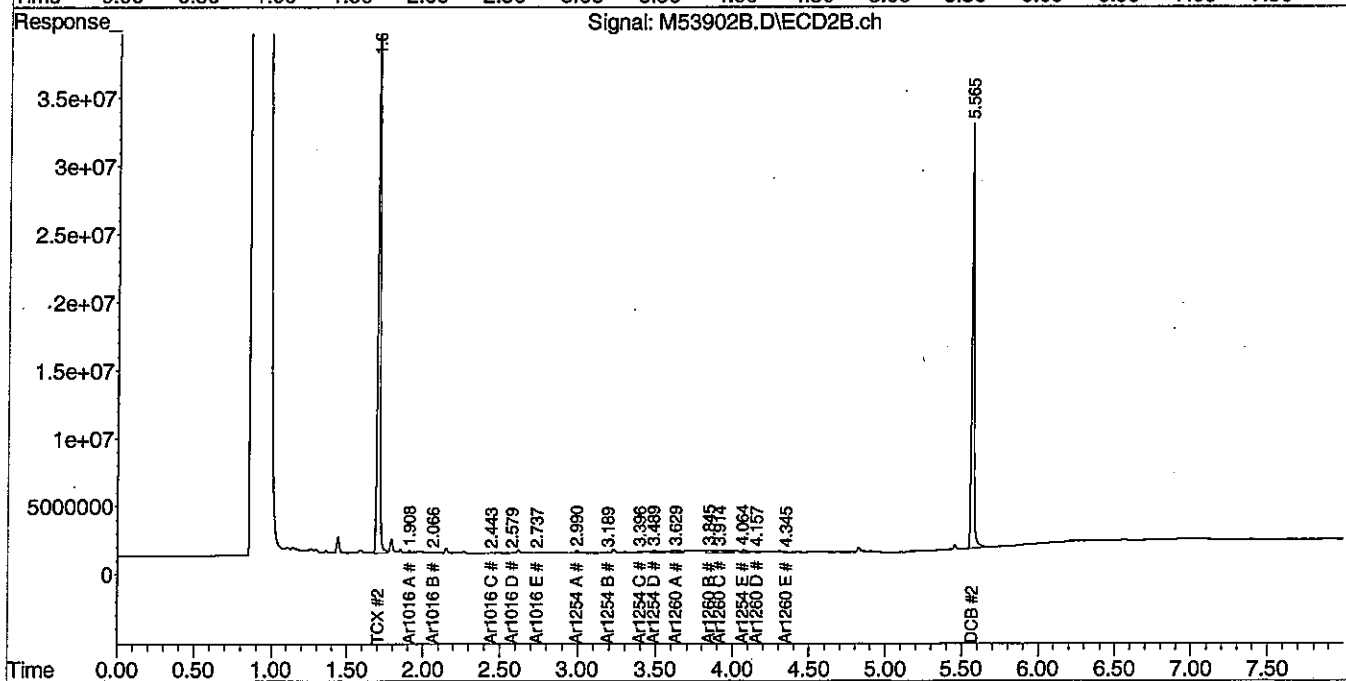
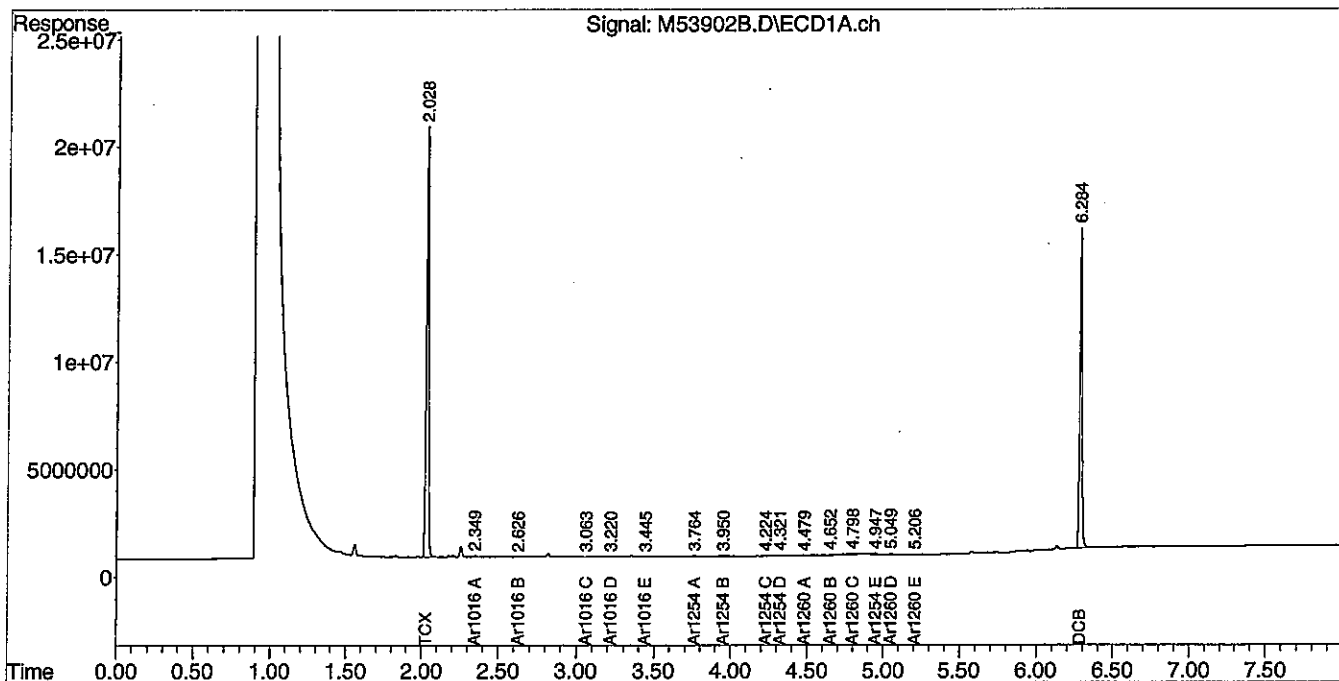
Authorized signature



Data Path : C:\msdchem\1\DATA\012312-M\  
Data File : M53902B.D  
Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch  
Acq On : 23 Jan 2012 9:49 am  
Operator : JK  
Sample : B012012PW  
Misc :  
ALS Vial : 6 Sample Multiplier: 1

Integration File signal 1: events.e  
Integration File signal 2: events2.e  
Quant Time: Jan 23 11:18:13 2012  
Quant Method : C:\msdchem\1\METHODS\PCB011112.M  
Quant Title : SW-846 METHOD 8082 Aroclor 1016/1260/1254  
QLast Update : Fri Jan 20 10:38:38 2012  
Response via : Initial Calibration  
Integrator: ChemStation

Volume Inj. : 2 uL  
Signal #1 Phase : STX-CLPPesticides Signal #2 Phase: STX-CLPPesticides  
Signal #1 Info : 30 m x 0.25mm x 0 Signal #2 Info : 30 m x 0.25mm x 0.25 um



Ms. Amy Wallace  
Woodard & Curran  
41 Hutchins Drive  
Portland ME 04102

January 23, 2012

**SAMPLE DATA**

**CLIENT SAMPLE ID**

**Project Name:** Peabody Terrace  
**Project Number:** 210980  
**Field Sample ID:** PTD-CBK-621-2316

**Lab Sample ID:** 72004-1  
**Matrix:** Solid  
**Percent Solid:** 100  
**Dilution Factor:** 4.3  
**Collection Date:** 01/17/12  
**Lab Receipt Date:** 01/17/12  
**Extraction Date:** 01/19/12  
**Analysis Date:** 01/20/12

**PCB ANALYTICAL RESULTS**

COMPOUND	Quantitation Limit $\mu\text{g/kg}$	Results $\mu\text{g/kg}$
PCB-1016	142	U
PCB-1221	142	U
PCB-1232	142	U
PCB-1242	142	U
PCB-1248	142	U
PCB-1254	142	3740
PCB-1260	142	U
PCB-1262	142	U
PCB-1268	142	U
<b>Surrogate Standard Recovery</b>		
2,4,5,6-Tetrachloro-m-xylene	98	%
Decachlorobiphenyl	91	%
U=Undetected J=Estimated E=Exceeds Calibration Range B=Detected in Blank		

**METHODOLOGY:** Sample analysis conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 8082.  
Sample preparation conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 3540C.  
Sample cleanup was conducted according to SW-846 Method 3665A.

**COMMENTS:** Results are expressed on a dry weight basis.





PCB  
COLUMN RELATIVE PERCENT DIFFERENCE

Instrument ID: M	SDG: 72004
GC Column #1: STX-CLPesticides I	Sample: 72004-1,,A/C
Column ID: 0.25 mm	Data File: M53871.D
GC Column #2: STX-CLPesticides II	Dilution Factor: 4.3
Column ID: 0.25 mm	

Column #1		Column #2		#
COMPOUND	SAMPLE RESULT (ug/kg)	SAMPLE RESULT (ug/kg)	RPD	
PCB 1254	3740	3700	1.1	

# Column to be used to flag RPD values greater than QC limit of 40%

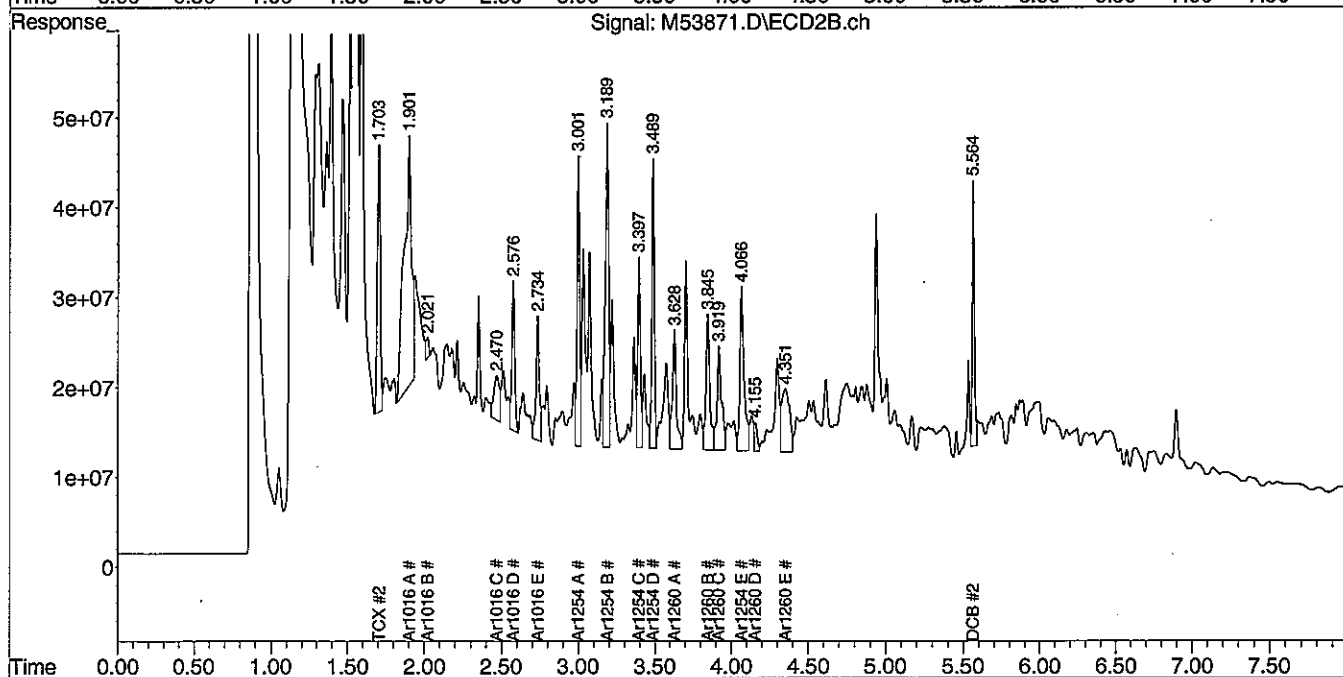
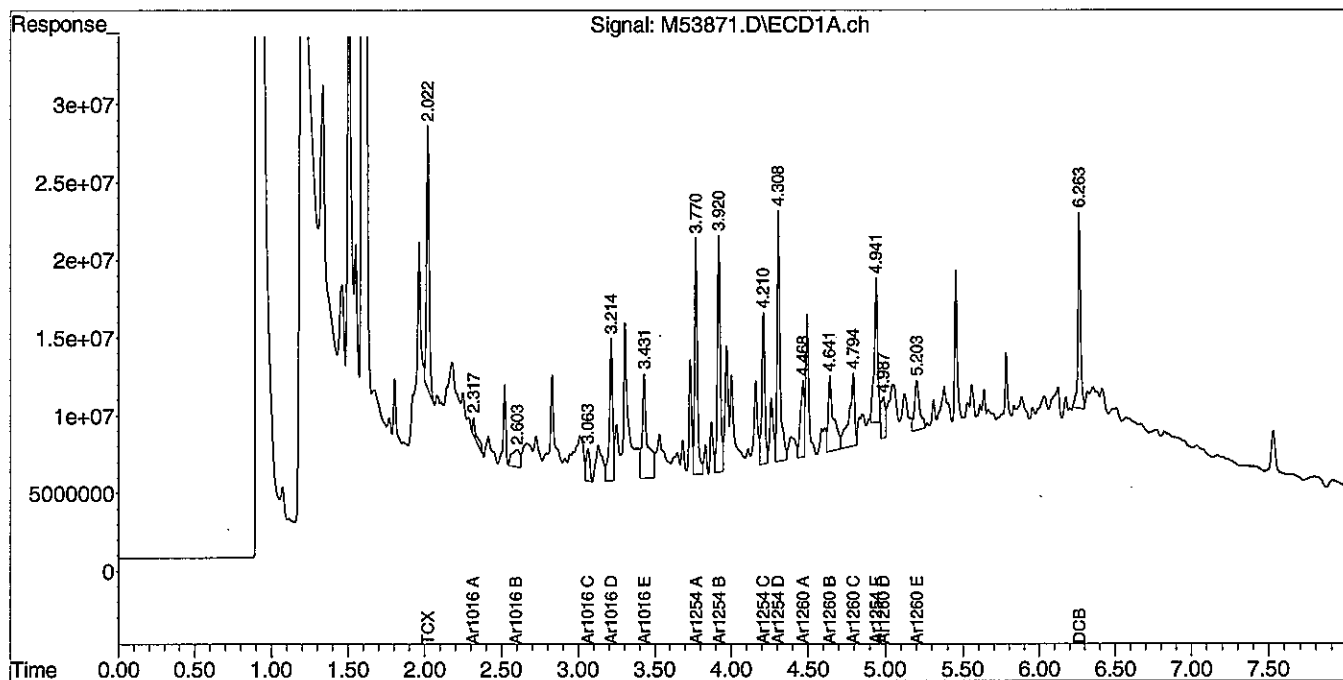
\* Values outside QC limits

Comments: \_\_\_\_\_

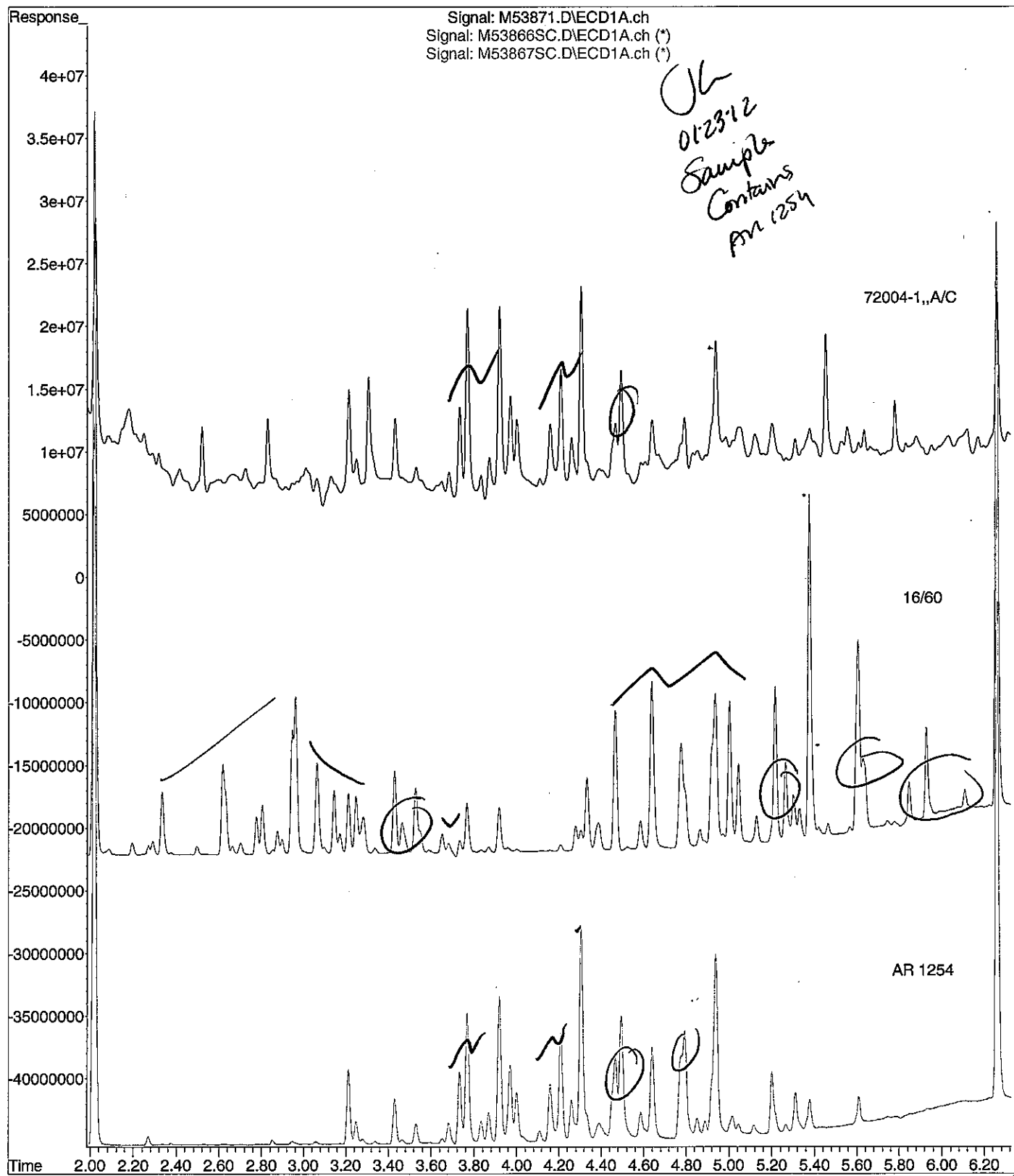
Data Path : C:\msdchem\1\DATA\012012-M\  
Data File : M53871.D  
Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch  
Acq On : 20 Jan 2012 1:01 pm  
Operator : JK  
Sample : 72004-1,,A/C  
Misc : SOIL  
ALS Vial : 9 Sample Multiplier: 1

Integration File signal 1: events.e  
Integration File signal 2: events2.e  
Quant Time: Jan 23 08:53:46 2012  
Quant Method : C:\msdchem\1\METHODS\PCB011112.M  
Quant Title : SW-846 METHOD 8082 Aroclor 1016/1260/1254  
QLast Update : Fri Jan 20 10:38:36 2012  
Response via : Initial Calibration  
Integrator: ChemStation

Volume Inj. : 2 uL  
Signal #1 Phase : STX-CLPPesticides Signal #2 Phase: STX-CLPPesticides  
Signal #1 Info : 30 m x 0.25mm x 0 Signal #2 Info : 30 m x 0.25mm x 0.25 um



File :C:\msdchem\1\DATA\012012-M\M53871.D  
Operator : JK  
Acquired : 20 Jan 2012 1:01 pm using AcqMethod PCB.M  
Instrument : Instrument M  
Sample Name: 72004-1,,A/C  
Misc Info : SOIL  
Vial Number: 9



*01/23/12*

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**SAMPLE DATA**
**CLIENT SAMPLE ID**

**Project Name:** Peabody Terrace  
**Project Number:** 210980  
**Field Sample ID:** PTD-CBK-621-2317

**Lab Sample ID:** 72004-2  
**Matrix:** Solid  
**Percent Solid:** 100  
**Dilution Factor:** 229  
**Collection Date:** 01/17/12  
**Lab Receipt Date:** 01/17/12  
**Extraction Date:** 01/19/12  
**Analysis Date:** 01/20/12

**PCB ANALYTICAL RESULTS**

COMPOUND	Quantitation Limit µg/kg	Results µg/kg
PCB-1016	7560	U
PCB-1221	7560	U
PCB-1232	7560	U
PCB-1242	7560	U
PCB-1248	7560	U
PCB-1254	7560	63500
PCB-1260	7560	U
PCB-1262	7560	U
PCB-1268	7560	U
<b>Surrogate Standard Recovery</b>		
2,4,5,6-Tetrachloro-m-xylene	*	%
Decachlorobiphenyl	*	%
U=Undetected J=Estimated E=Exceeds Calibration Range B=Detected in Blank		

**METHODOLOGY:** Sample analysis conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 8082.  
 Sample preparation conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 3540C.  
 Sample cleanup was conducted according to SW-846 Method 3665A.

**COMMENTS:** Results are expressed on a dry weight basis.  
 \* The surrogates were diluted out.

PCB  
COLUMN RELATIVE PERCENT DIFFERENCE

Instrument ID: M  
GC Column #1: STX-CLPesticides I  
Column ID: 0.25 mm  
GC Column #2: STX-CLPesticides II  
Column ID: 0.25 mm

SDG: 72004  
Sample: 72004-2,1:50,,A/C  
Data File: M53872.D  
Dilution Factor: 229.4

Column #1		Column #2		RPD	#
COMPOUND	SAMPLE RESULT (ug/kg)	SAMPLE RESULT (ug/kg)			
PCB 1254	61607	63518		3.1	

# Column to be used to flag RPD values greater than QC limit of 40%

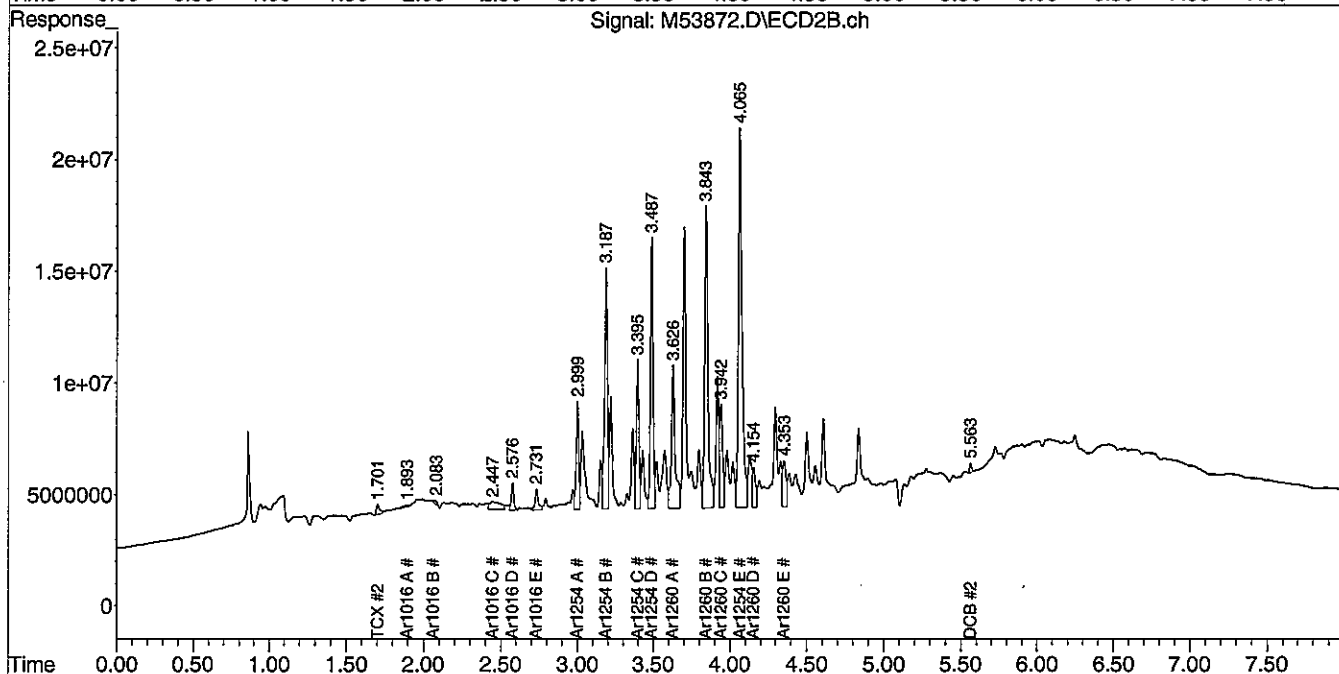
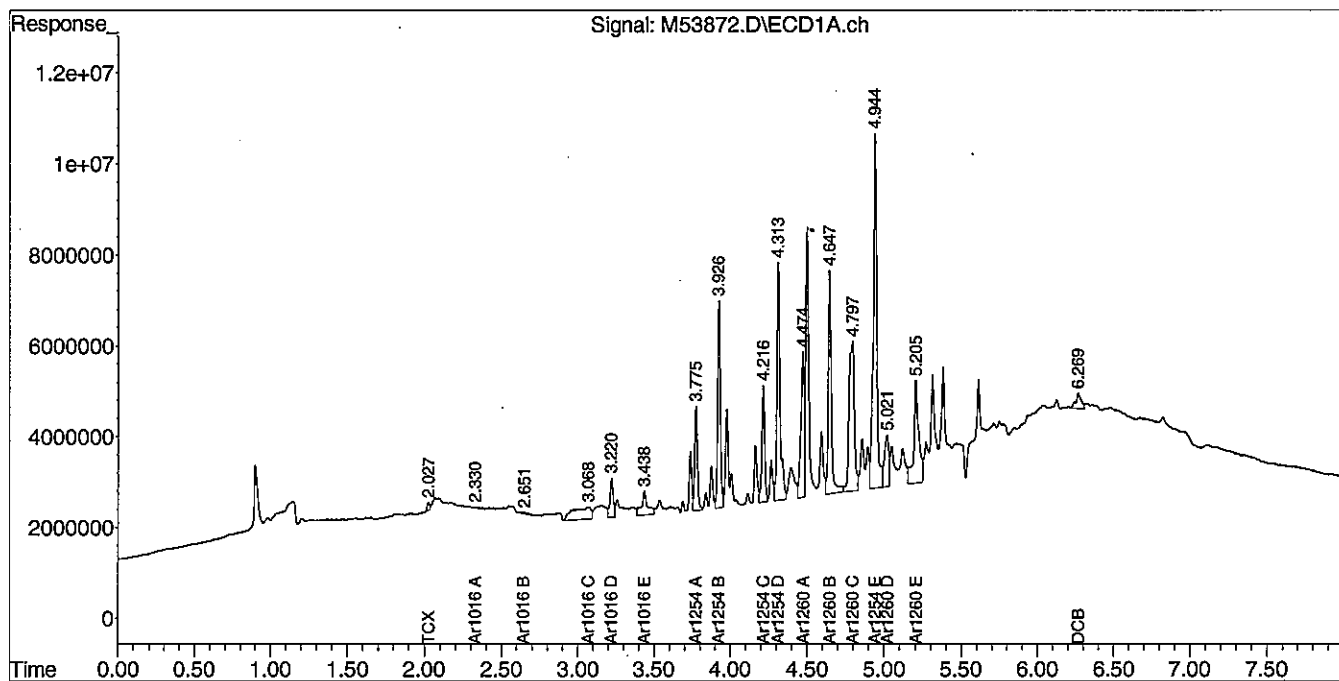
\* Values outside QC limits

Comments: \_\_\_\_\_

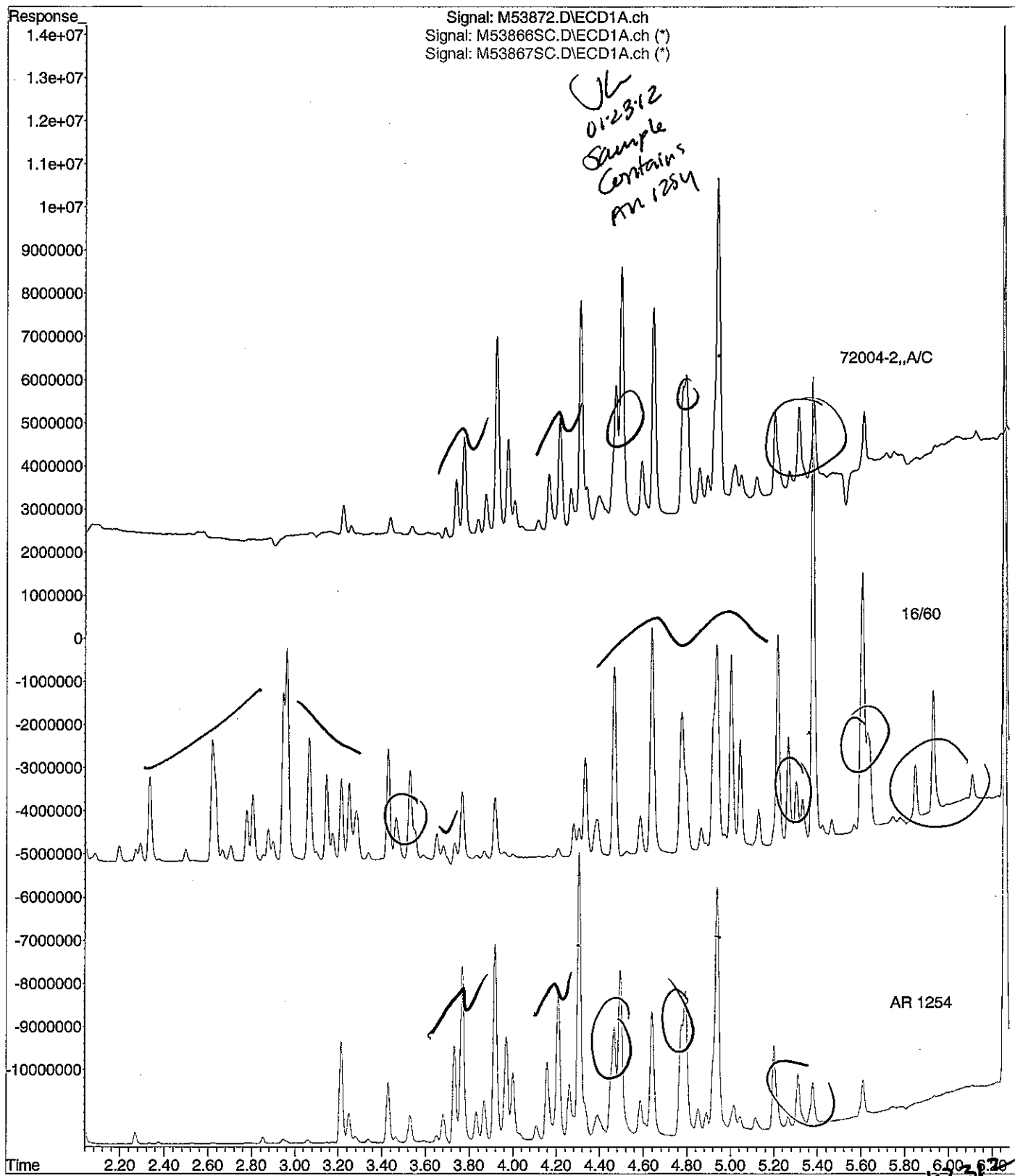
Data Path : C:\msdchem\1\DATA\012012-M\  
Data File : M53872.D  
Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch  
Acq On : 20 Jan 2012 1:14 pm  
Operator : JK  
Sample : 72004-2,1:50,,A/C  
Misc : SOIL  
ALS Vial : 10 Sample Multiplier: 1

Integration File signal 1: events.e  
Integration File signal 2: events2.e  
Quant Time: Jan 20 14:44:52 2012  
Quant Method : C:\msdchem\1\METHODS\PCB011112.M  
Quant Title : SW-846 METHOD 8082 Aroclor 1016/1260/1254  
QLast Update : Fri Jan 20 10:38:36 2012  
Response via : Initial Calibration  
Integrator: ChemStation

Volume Inj. : 2 uL  
Signal #1 Phase : STX-CLPPesticides Signal #2 Phase: STX-CLPPesticides  
Signal #1 Info : 30 m x 0.25mm x 0 Signal #2 Info : 30 m x 0.25mm x 0.25 um



File :C:\msdchem\1\DATA\012012-M\M53872.D  
Operator : JK  
Acquired : 20 Jan 2012 1:14 pm using AcqMethod PCB.M  
Instrument : Instrument M  
Sample Name: 72004-2,1:50,,A/C  
Misc Info : SOIL  
Vial Number: 10



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**SAMPLE DATA**

**CLIENT SAMPLE ID**

**Project Name:** Peabody Terrace  
**Project Number:** 210980  
**Field Sample ID:** PTD-CBK-822-2318

**Lab Sample ID:** 72004-3  
**Matrix:** Solid  
**Percent Solid:** 100  
**Dilution Factor:** 130  
**Collection Date:** 01/17/12  
**Lab Receipt Date:** 01/17/12  
**Extraction Date:** 01/19/12  
**Analysis Date:** 01/20/12

PCB ANALYTICAL RESULTS		
COMPOUND	Quantitation Limit µg/kg	Results µg/kg
PCB-1016	4290	U
PCB-1221	4290	U
PCB-1232	4290	U
PCB-1242	4290	U
PCB-1248	4290	U
PCB-1254	4290	78200
PCB-1260	4290	U
PCB-1262	4290	U
PCB-1268	4290	U
<b>Surrogate Standard Recovery</b>		
2,4,5,6-Tetrachloro-m-xylene	*	%
Decachlorobiphenyl	*	%
U=Undetected J=Estimated E=Exceeds Calibration Range B=Detected in Blank		

**METHODOLOGY:** Sample analysis conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 8082.  
Sample preparation conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 3540C.  
Sample cleanup was conducted according to SW-846 Method 3665A.

**COMMENTS:** Results are expressed on a dry weight basis.  
\* The surrogates were diluted out.



PCB  
COLUMN RELATIVE PERCENT DIFFERENCE

Instrument ID: M

SDG: 72004

GC Column #1: STX-CLPesticides I

Sample: 72004-3,1:20,,A/C

Column ID: 0.25 mm

Data File: M53878.D

GC Column #2: STX-CLPesticides II

Dilution Factor: 129.9

Column ID: 0.25 mm

COMPOUND	Column #1	Column #2		
	SAMPLE RESULT (ug/kg)	SAMPLE RESULT (ug/kg)	RPD	#
PCB 1254	75647	78236	3.4	

# Column to be used to flag RPD values greater than QC limit of 40%

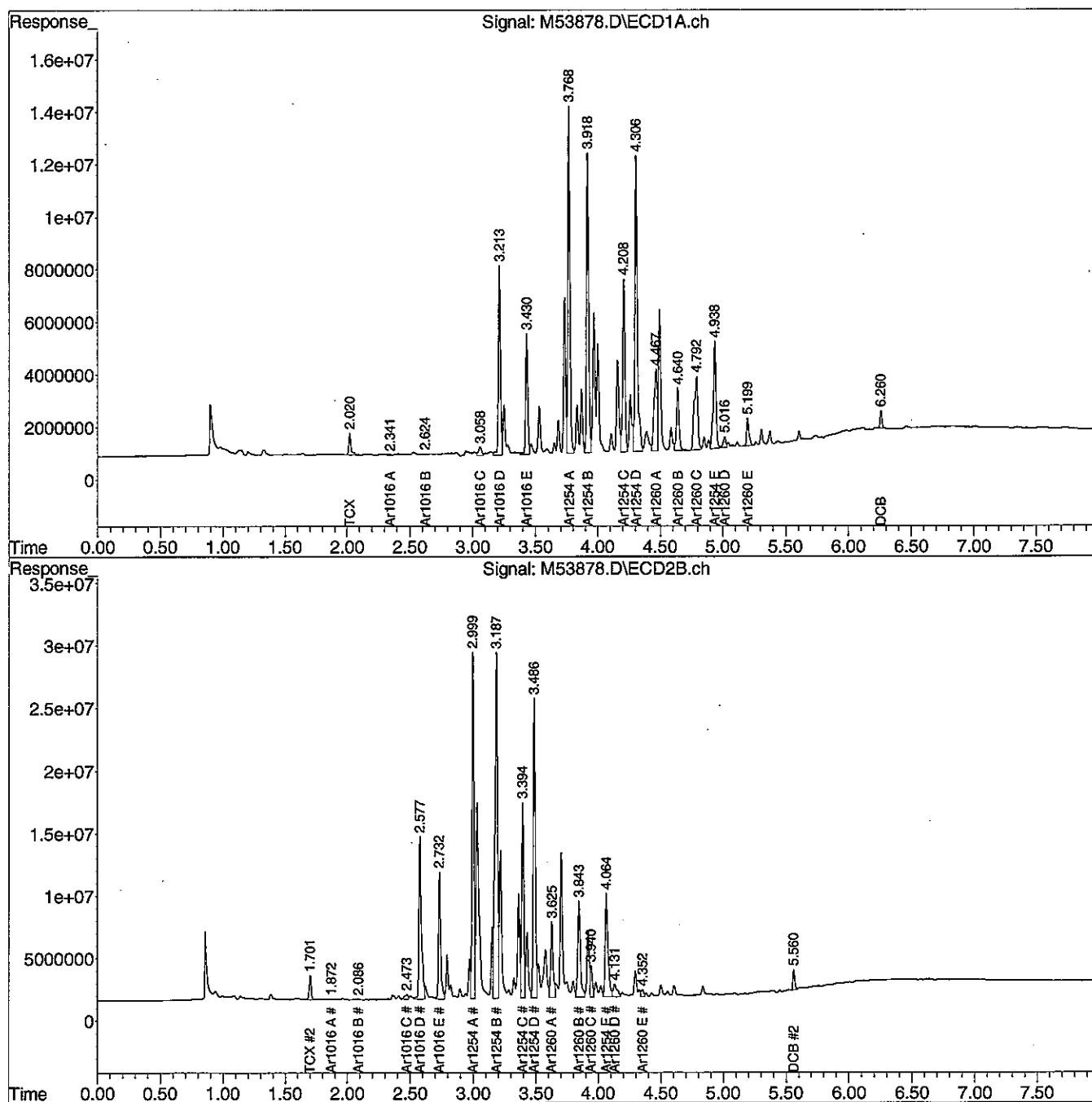
\* Values outside QC limits

Comments: \_\_\_\_\_

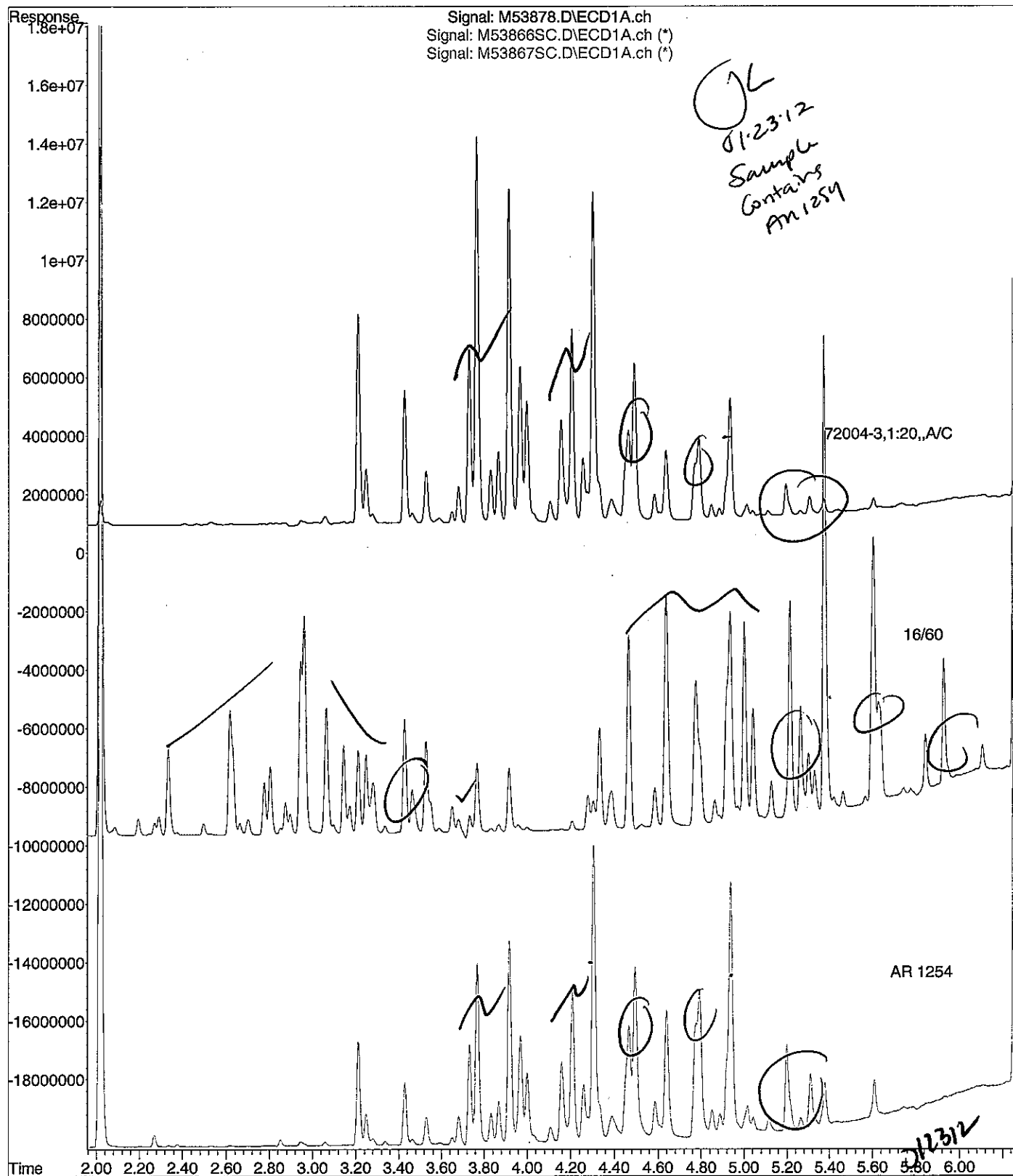
Data Path : C:\msdchem\1\DATA\012012-M\  
Data File : M53878.D  
Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch  
Acq On : 20 Jan 2012 2:14 pm  
Operator : JK  
Sample : 72004-3,1:20,,A/C  
Misc : SOIL  
ALS Vial : 16 Sample Multiplier: 1

Integration File signal 1: events.e  
Integration File signal 2: events2.e  
Quant Time: Jan 20 14:45:04 2012  
Quant Method : C:\msdchem\1\METHODS\PCB011112.M  
Quant Title : SW-846 METHOD 8082 Aroclor 1016/1260/1254  
QLast Update : Fri Jan 20 10:38:36 2012  
Response via : Initial Calibration  
Integrator: ChemStation

Volume Inj. : 2 uL  
Signal #1 Phase : STX-CLPPesticides Signal #2 Phase: STX-CLPPesticides  
Signal #1 Info : 30 m x 0.25mm x 0 Signal #2 Info : 30 m x 0.25mm x 0.25 um



File :C:\msdchem\1\DATA\012012-M\M53878.D  
Operator : JK  
Acquired : 20 Jan 2012 2:14 pm using AcqMethod PCB.M  
Instrument : Instrument M  
Sample Name: 72004-3,1:20,,A/C  
Misc Info : SOIL  
Vial Number: 16



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**SAMPLE DATA**

**CLIENT SAMPLE ID**

**Project Name:** Peabody Terrace  
**Project Number:** 210980  
**Field Sample ID:** PTD-CBK-922-2319

**Lab Sample ID:** 72004-4  
**Matrix:** Solid  
**Percent Solid:** 100  
**Dilution Factor:** 840  
**Collection Date:** 01/17/12  
**Lab Receipt Date:** 01/17/12  
**Extraction Date:** 01/19/12  
**Analysis Date:** 01/20/12

**PCB ANALYTICAL RESULTS**

COMPOUND	Quantitation Limit µg/kg	Results µg/kg
PCB-1016	27700	U
PCB-1221	27700	U
PCB-1232	27700	U
PCB-1242	27700	U
PCB-1248	27700	U
PCB-1254	27700	256000
PCB-1260	27700	U
PCB-1262	27700	U
PCB-1268	27700	U
<b>Surrogate Standard Recovery</b>		
2,4,5,6-Tetrachloro-m-xylene	*	%
Decachlorobiphenyl	*	%
U=Undetected J=Estimated E=Exceeds Calibration Range B=Detected in Blank		

**METHODOLOGY:** Sample analysis conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 8082.  
Sample preparation conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 3540C.  
Sample cleanup was conducted according to SW-846 Method 3665A.

**COMMENTS:** Results are expressed on a dry weight basis.  
\* The surrogates were diluted out.

PCB  
COLUMN RELATIVE PERCENT DIFFERENCE

Instrument ID: M	SDG: 72004
GC Column #1: STX-CLPesticides I	Sample: 72004-4,1:100,,A/C
Column ID: 0.25 mm	Data File: M53874.D
GC Column #2: STX-CLPesticides II	Dilution Factor: 840.3
Column ID: 0.25 mm	

Column #1		Column #2	
COMPOUND	SAMPLE RESULT (ug/kg)	SAMPLE RESULT (ug/kg)	RPD #
PCB 1254	255567	245736	3.9

# Column to be used to flag RPD values greater than QC limit of 40%

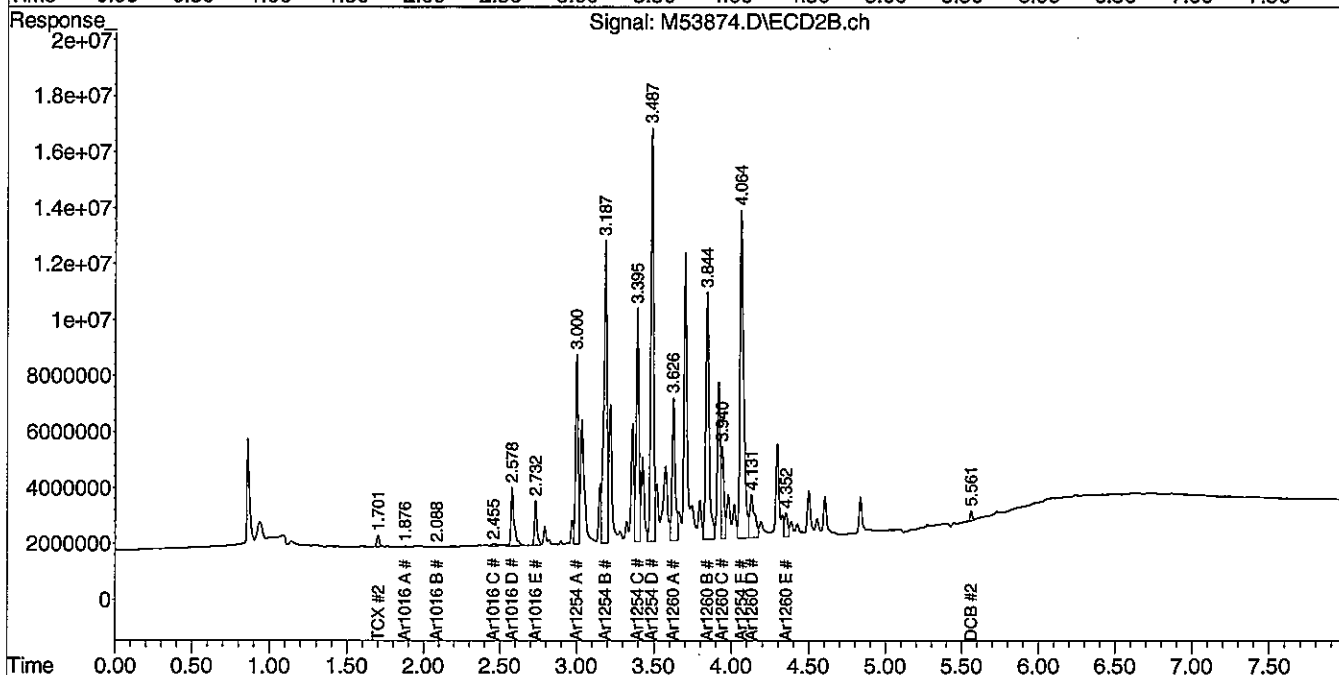
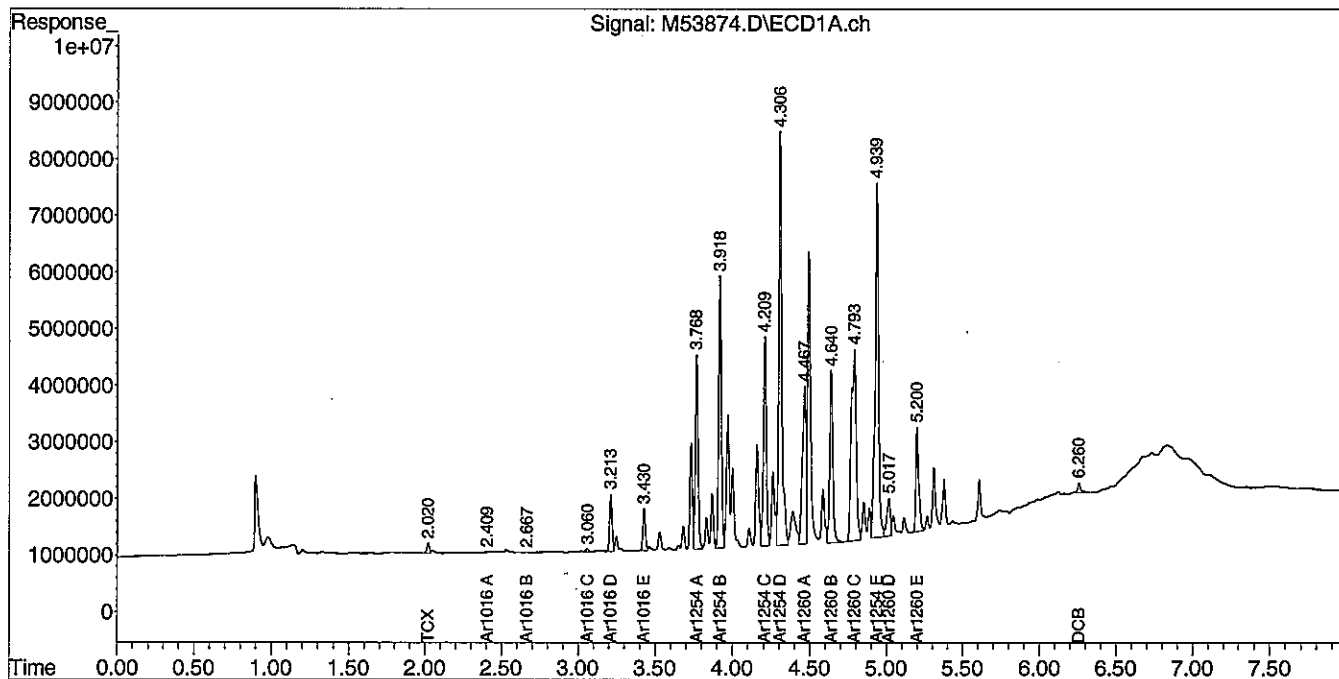
\* Values outside QC limits

Comments: \_\_\_\_\_

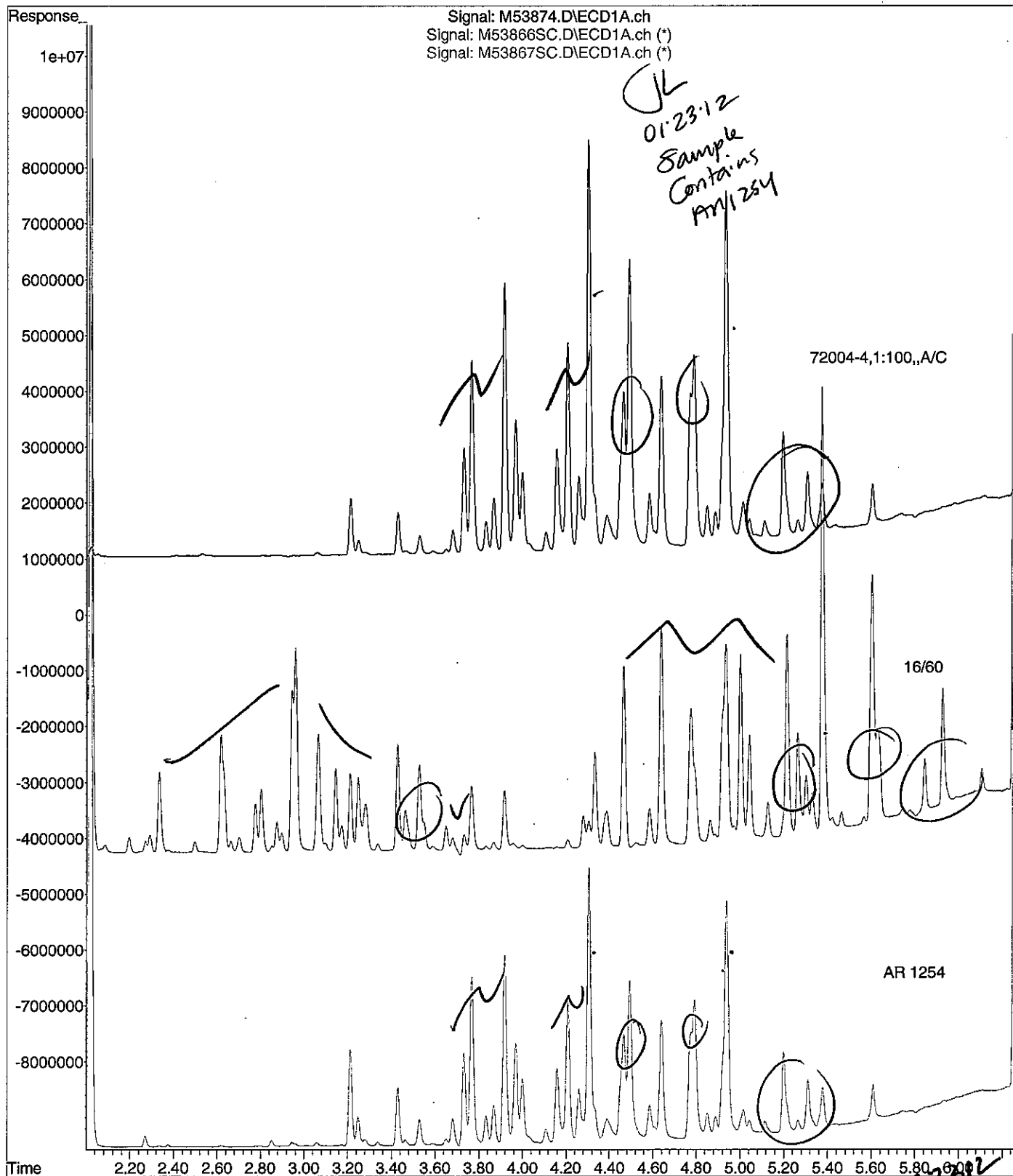
Data Path : C:\msdchem\1\DATA\012012-M\  
 Data File : M53874.D  
 Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch  
 Acq On : 20 Jan 2012 1:34 pm  
 Operator : JK  
 Sample : 72004-4,1:100,,A/C  
 Misc : SOIL  
 ALS Vial : 12 Sample Multiplier: 1

Integration File signal 1: events.e  
 Integration File signal 2: events2.e  
 Quant Time: Jan 20 14:44:56 2012  
 Quant Method : C:\msdchem\1\METHODS\PCB011112.M  
 Quant Title : SW-846 METHOD 8082 Aroclor 1016/1260/1254  
 QLast Update : Fri Jan 20 10:38:36 2012  
 Response via : Initial Calibration  
 Integrator: ChemStation

Volume Inj. : 2 uL  
 Signal #1 Phase : STX-CLPPesticides Signal #2 Phase: STX-CLPPesticides  
 Signal #1 Info : 30 m x 0.25mm x 0 Signal #2 Info : 30 m x 0.25mm x 0.25 um



File :C:\msdchem\1\DATA\012012-M\M53874.D  
Operator : JK  
Acquired : 20 Jan 2012 1:34 pm using AcqMethod PCB.M  
Instrument : Instrument M  
Sample Name: 72004-4,1:100,,A/C  
Misc Info : SOIL  
Vial Number: 12



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**SAMPLE DATA**

**CLIENT SAMPLE ID**  
**Project Name:** Peabody Terrace  
**Project Number:** 210980  
**Field Sample ID:** PTD-CBK-922-2320

**Lab Sample ID:** 72004-5  
**Matrix:** Solid  
**Percent Solid:** 100  
**Dilution Factor:** 185  
**Collection Date:** 01/17/12  
**Lab Receipt Date:** 01/17/12  
**Extraction Date:** 01/19/12  
**Analysis Date:** 01/20/12

PCB ANALYTICAL RESULTS		
COMPOUND	Quantitation Limit µg/kg	Results µg/kg
PCB-1016	6110	U
PCB-1221	6110	U
PCB-1232	6110	U
PCB-1242	6110	U
PCB-1248	6110	U
PCB-1254	6110	96600
PCB-1260	6110	U
PCB-1262	6110	U
PCB-1268	6110	U
<b>Surrogate Standard Recovery</b>		
2,4,5,6-Tetrachloro-m-xylene	*	%
Decachlorobiphenyl	*	%
U=Undetected J=Estimated E=Exceeds Calibration Range B=Detected in Blank		

**METHODOLOGY:** Sample analysis conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 8082.  
Sample preparation conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 3540C.  
Sample cleanup was conducted according to SW-846 Method 3665A.

**COMMENTS:** Results are expressed on a dry weight basis.  
\* The surrogates were diluted out.



PCB  
COLUMN RELATIVE PERCENT DIFFERENCE

Instrument ID: M	SDG: 72004
GC Column #1: STX-CLPesticides I	Sample: 72004-5,1:50,,A/C
Column ID: 0.25 mm	Data File: M53879.D
GC Column #2: STX-CLPesticides II	Dilution Factor: 184.5
Column ID: 0.25 mm	

Column #1		Column #2	
COMPOUND	SAMPLE RESULT (ug/kg)	SAMPLE RESULT (ug/kg)	RPD #
PCB 1254	96607	92887	3.9

# Column to be used to flag RPD values greater than QC limit of 40%

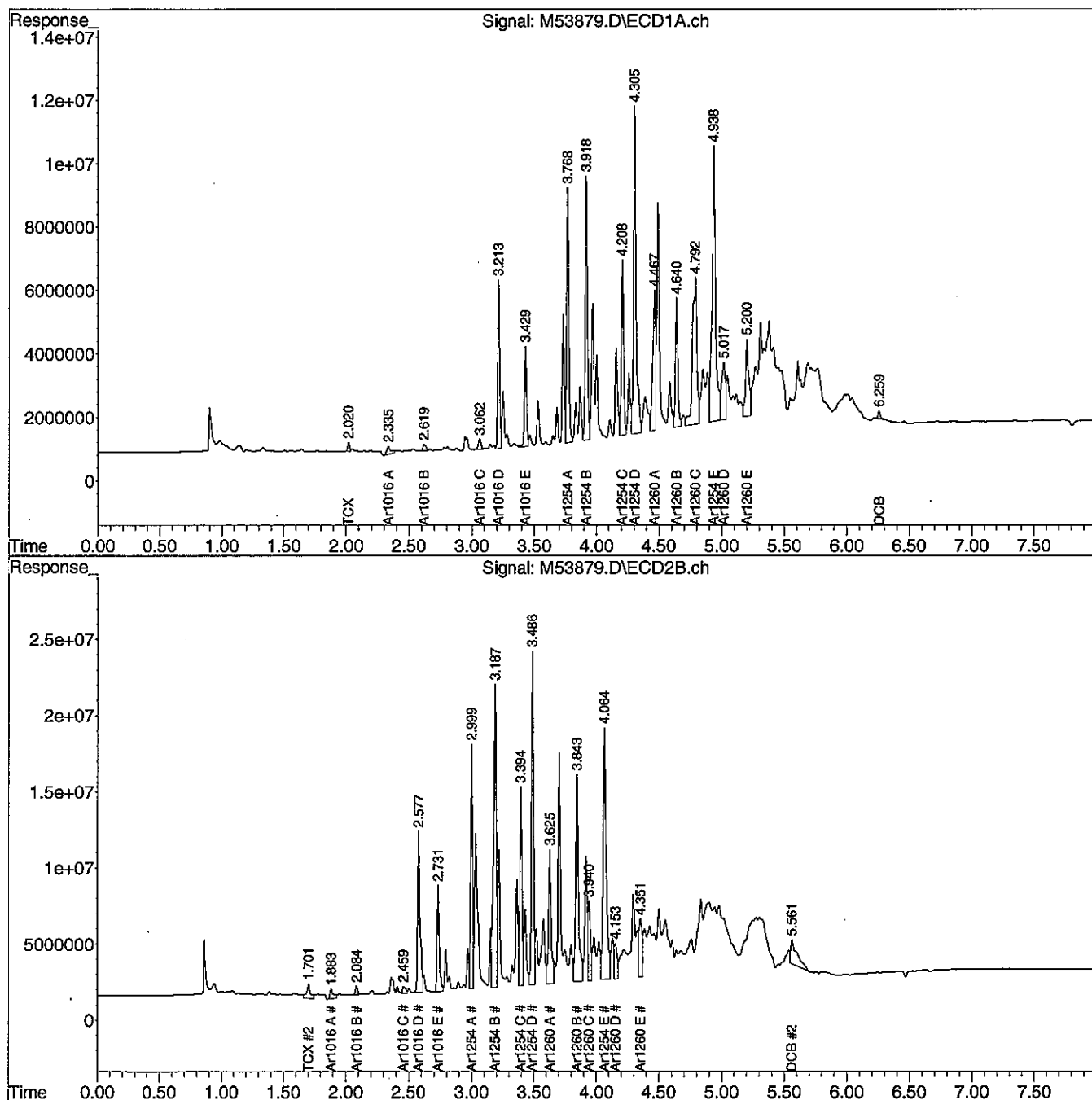
\* Values outside QC limits

Comments: \_\_\_\_\_

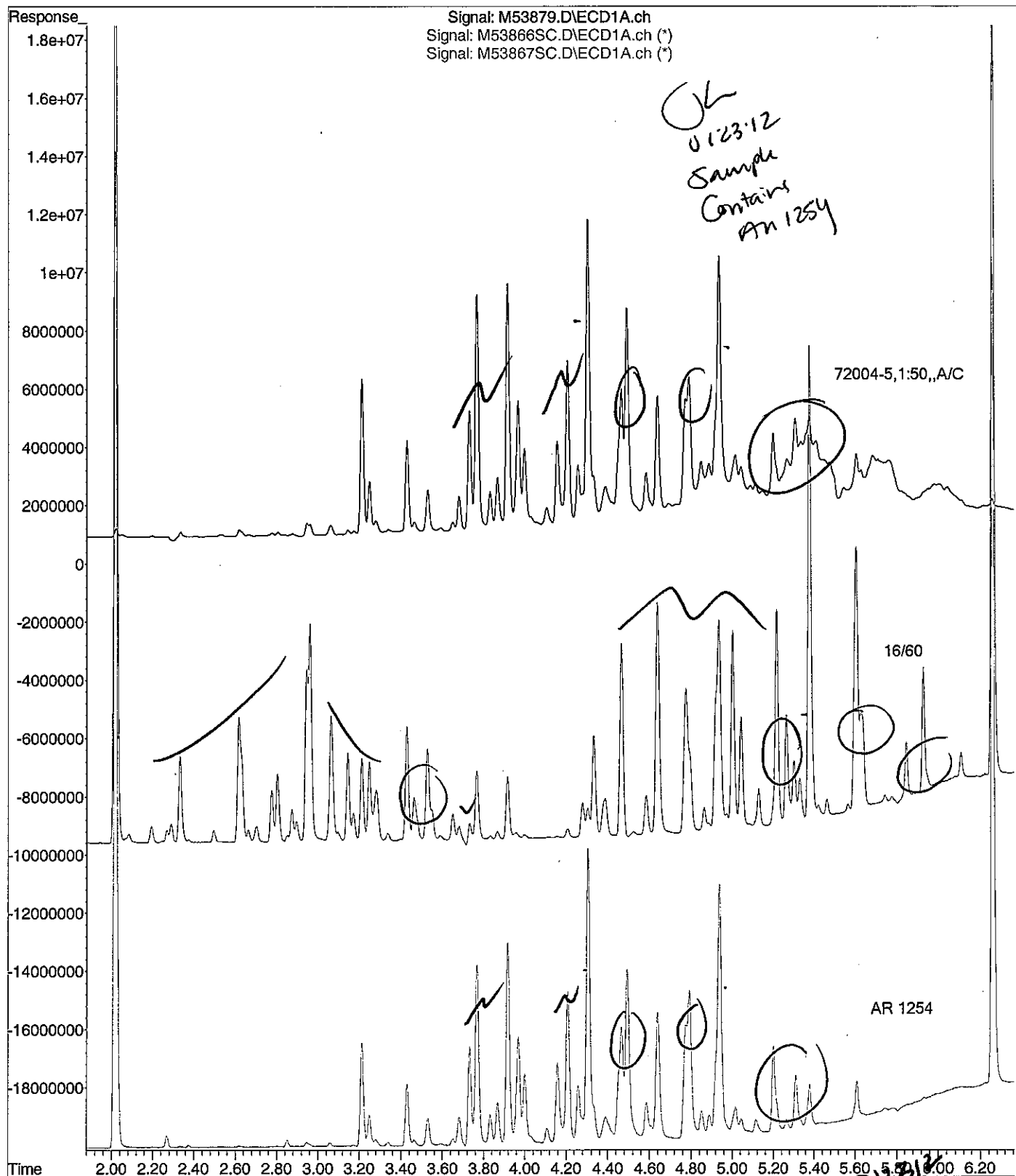
Data Path : C:\msdchem\1\DATA\012012-M\  
Data File : M53879.D  
Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch  
Acq On : 20 Jan 2012 2:24 pm  
Operator : JK  
Sample : 72004-5,1:50,,A/C  
Misc : SOIL  
ALS Vial : 17 Sample Multiplier: 1

Integration File signal 1: events.e  
Integration File signal 2: events2.e  
Quant Time: Jan 20 14:45:06 2012  
Quant Method : C:\msdchem\1\METHODS\PCB011112.M  
Quant Title : SW-846 METHOD 8082 Aroclor 1016/1260/1254  
QLast Update : Fri Jan 20 10:38:36 2012  
Response via : Initial Calibration  
Integrator: ChemStation

Volume Inj. : 2 uL  
Signal #1 Phase : STX-CLPPesticides Signal #2 Phase: STX-CLPPesticides  
Signal #1 Info : 30 m x 0.25mm x 0 Signal #2 Info : 30 m x 0.25mm x 0.25 um



File :C:\msdchem\1\DATA\012012-M\M53879.D  
Operator : JK  
Acquired : 20 Jan 2012 2:24 pm using AcqMethod PCB.M  
Instrument : Instrument M  
Sample Name: 72004-5,1:50,,A/C  
Misc Info : SOIL  
Vial Number: 17



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January 23, 2012

**SAMPLE DATA**

**CLIENT SAMPLE ID**

**Project Name:** Peabody Terrace  
**Project Number:** 210980  
**Field Sample ID:** PTD-CBKD-922-2321

**Lab Sample ID:** 72004-6  
**Matrix:** Solid  
**Percent Solid:** 100  
**Dilution Factor:** 84  
**Collection Date:** 01/17/12  
**Lab Receipt Date:** 01/17/12  
**Extraction Date:** 01/19/12  
**Analysis Date:** 01/20/12

**PCB ANALYTICAL RESULTS**

COMPOUND	Quantitation Limit µg/kg	Results µg/kg
PCB-1016	2770	U
PCB-1221	2770	U
PCB-1232	2770	U
PCB-1242	2770	U
PCB-1248	2770	U
PCB-1254	2770	48900
PCB-1260	2770	U
PCB-1262	2770	U
PCB-1268	2770	U
<b>Surrogate Standard Recovery</b>		
2,4,5,6-Tetrachloro-m-xylene	61	%
Decachlorobiphenyl	85	%
U=Undetected J=Estimated E=Exceeds Calibration Range B=Detected in Blank		

**METHODOLOGY:** Sample analysis conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 8082.  
Sample preparation conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 3540C.  
Sample cleanup was conducted according to SW-846 Method 3665A.

**COMMENTS:** Results are expressed on a dry weight basis.

PCB  
COLUMN RELATIVE PERCENT DIFFERENCE

Instrument ID: M	SDG: 72004
GC Column #1: STX-CLPesticides I	Sample: 72004-6,1:10,,A/C
Column ID: 0.25 mm	Data File: M53876.D
GC Column #2: STX-CLPesticides II	Dilution Factor: 83.6
Column ID: 0.25 mm	

Column #1		Column #2		RPD	#
COMPOUND	SAMPLE RESULT (ug/kg)	SAMPLE RESULT (ug/kg)			
PCB 1254	48910	45144		8.0	

# Column to be used to flag RPD values greater than QC limit of 40%

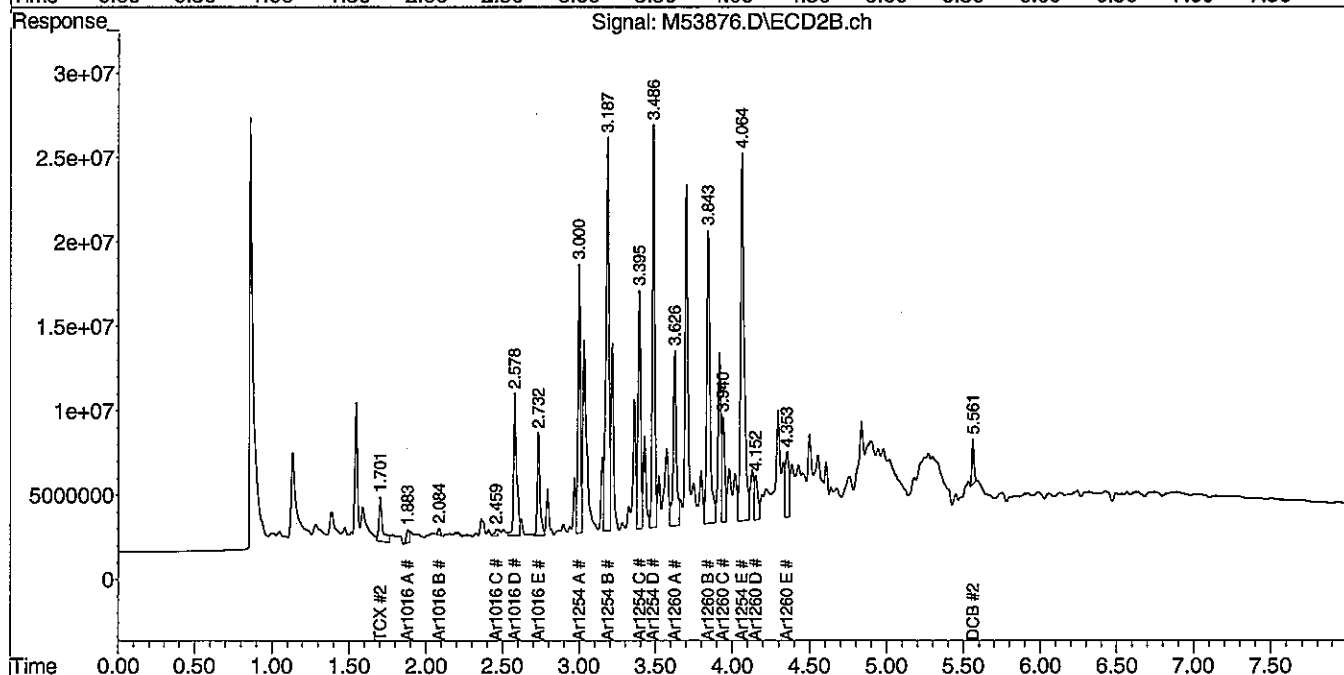
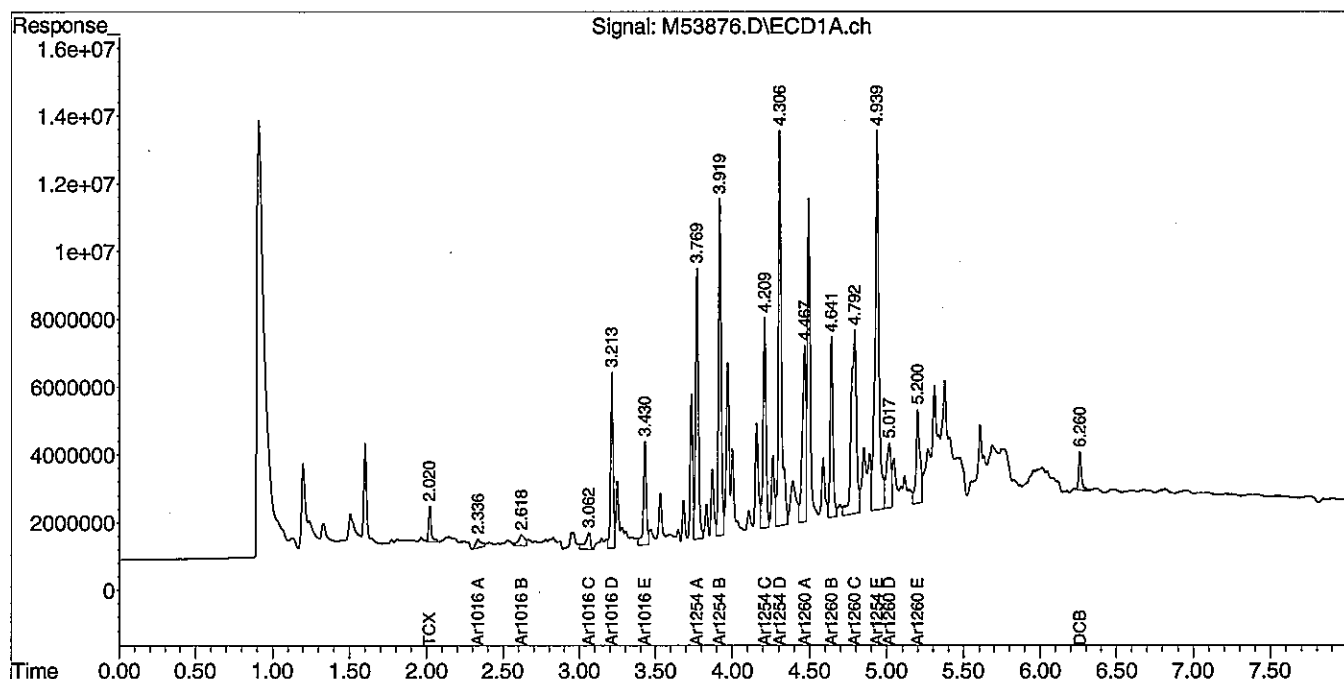
\* Values outside QC limits

Comments: \_\_\_\_\_

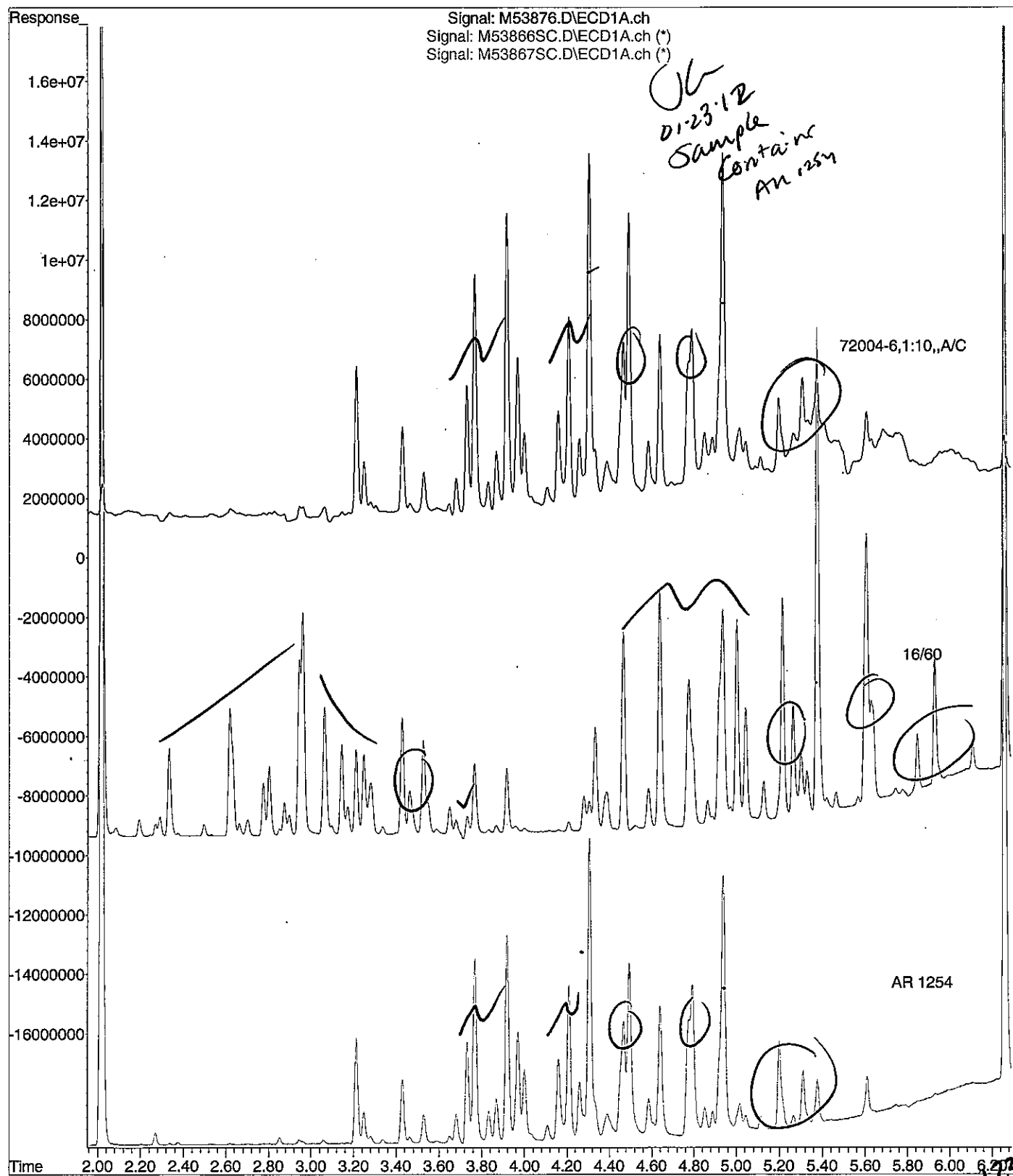
Data Path : C:\msdchem\1\DATA\012012-M\  
 Data File : M53876.D  
 Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch  
 Acq On : 20 Jan 2012 1:54 pm  
 Operator : JK  
 Sample : 72004-6,1:10,,A/C  
 Misc : SOIL  
 ALS Vial : 14 Sample Multiplier: 1

Integration File signal 1: events.e  
 Integration File signal 2: events2.e  
 Quant Time: Jan 23 08:58:52 2012  
 Quant Method : C:\msdchem\1\METHODS\PCB011112.M  
 Quant Title : SW-846 METHOD 8082 Aroclor 1016/1260/1254  
 QLast Update : Fri Jan 20 10:38:36 2012  
 Response via : Initial Calibration  
 Integrator: ChemStation

Volume Inj. : 2 uL  
 Signal #1 Phase : STX-CLPPesticides Signal #2 Phase: STX-CLPPesticides  
 Signal #1 Info : 30 m x 0.25mm x 0 Signal #2 Info : 30 m x 0.25mm x 0.25 um



File :C:\msdchem\1\DATA\012012-M\M53876.D  
Operator : JK  
Acquired : 20 Jan 2012 1:54 pm using AcqMethod PCB.M  
Instrument : Instrument M  
Sample Name: 72004-6,1:10,,A/C  
Misc Info : SOIL  
Vial Number: 14



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**SAMPLE DATA**
**CLIENT SAMPLE ID**
**Project Name:** Peabody Terrace  
**Project Number:** 210980  
**Field Sample ID:** PTD-CBK-W-2322

**Lab Sample ID:** 72004-7  
**Matrix:** Solid  
**Percent Solid:** 100  
**Dilution Factor:** 141  
**Collection Date:** 01/17/12  
**Lab Receipt Date:** 01/17/12  
**Extraction Date:** 01/19/12  
**Analysis Date:** 01/20/12

**PCB ANALYTICAL RESULTS**

COMPOUND	Quantitation Limit µg/kg	Results µg/kg
PCB-1016	4650	U
PCB-1221	4650	U
PCB-1232	4650	U
PCB-1242	4650	U
PCB-1248	4650	U
PCB-1254	4650	79000
PCB-1260	4650	U
PCB-1262	4650	U
PCB-1268	4650	U
<b>Surrogate Standard Recovery</b>		
2,4,5,6-Tetrachloro-m-xylene	*	%
Decachlorobiphenyl	*	%
U=Undetected J=Estimated E=Exceeds Calibration Range B=Detected in Blank		

**METHODOLOGY:** Sample analysis conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 8082.  
Sample preparation conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 3540C.  
Sample cleanup was conducted according to SW-846 Method 3665A.

**COMMENTS:** Results are expressed on a dry weight basis.  
\* The surrogates were diluted out.





PCB  
COLUMN RELATIVE PERCENT DIFFERENCE

Instrument ID: M

SDG: 72004

GC Column #1: STX-CLPesticides I

Sample: 72004-7,1:20,,A/C

Column ID: 0.25 mm

Data File: M53880.D

GC Column #2: STX-CLPesticides II

Dilution Factor: 140.8

Column ID: 0.25 mm

Column #1		Column #2		#
COMPOUND	SAMPLE RESULT (ug/kg)	SAMPLE RESULT (ug/kg)	RPD	
PCB 1254	78965	76441	3.2	

# Column to be used to flag RPD values greater than QC limit of 40%

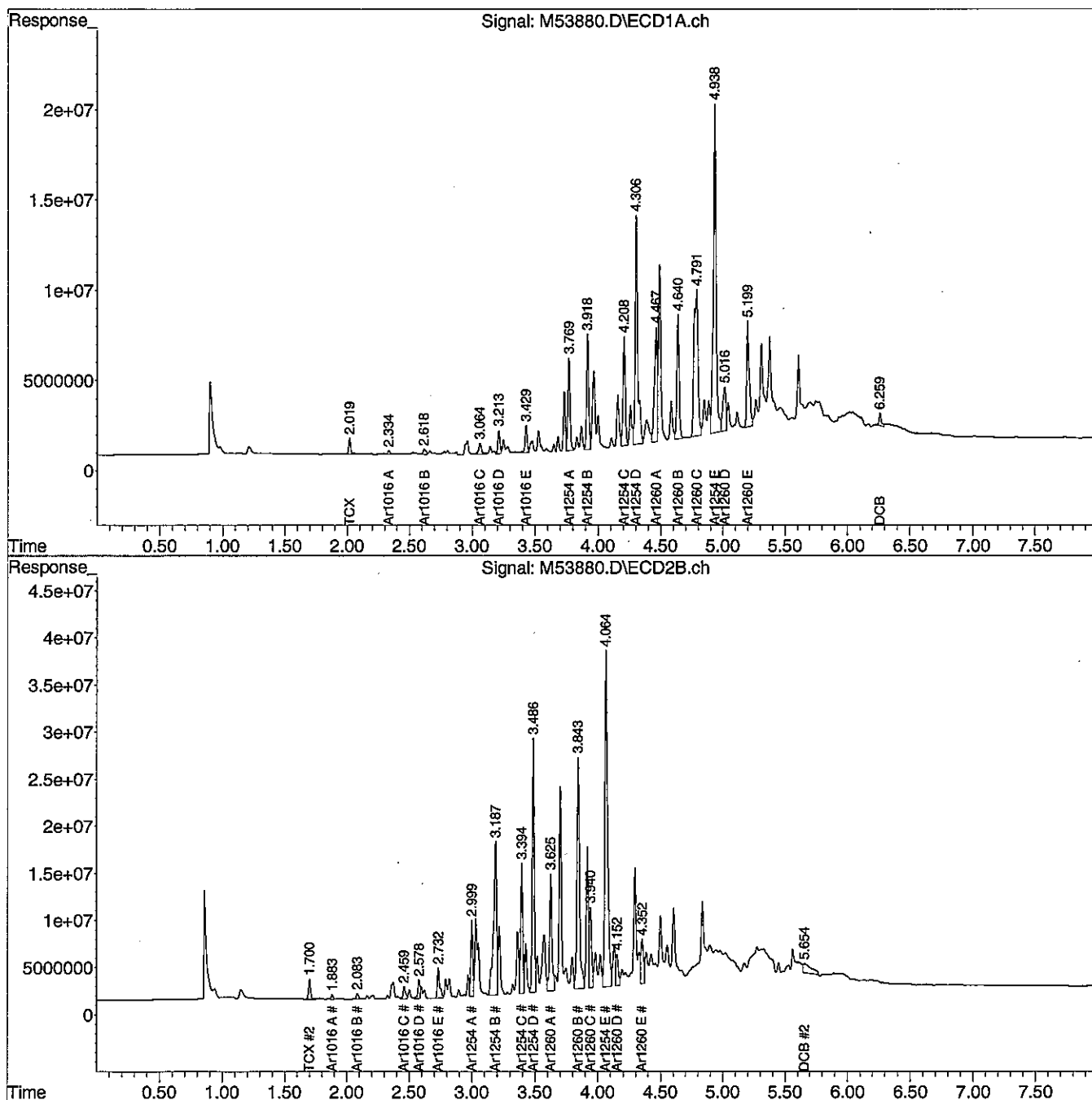
\* Values outside QC limits

Comments: \_\_\_\_\_

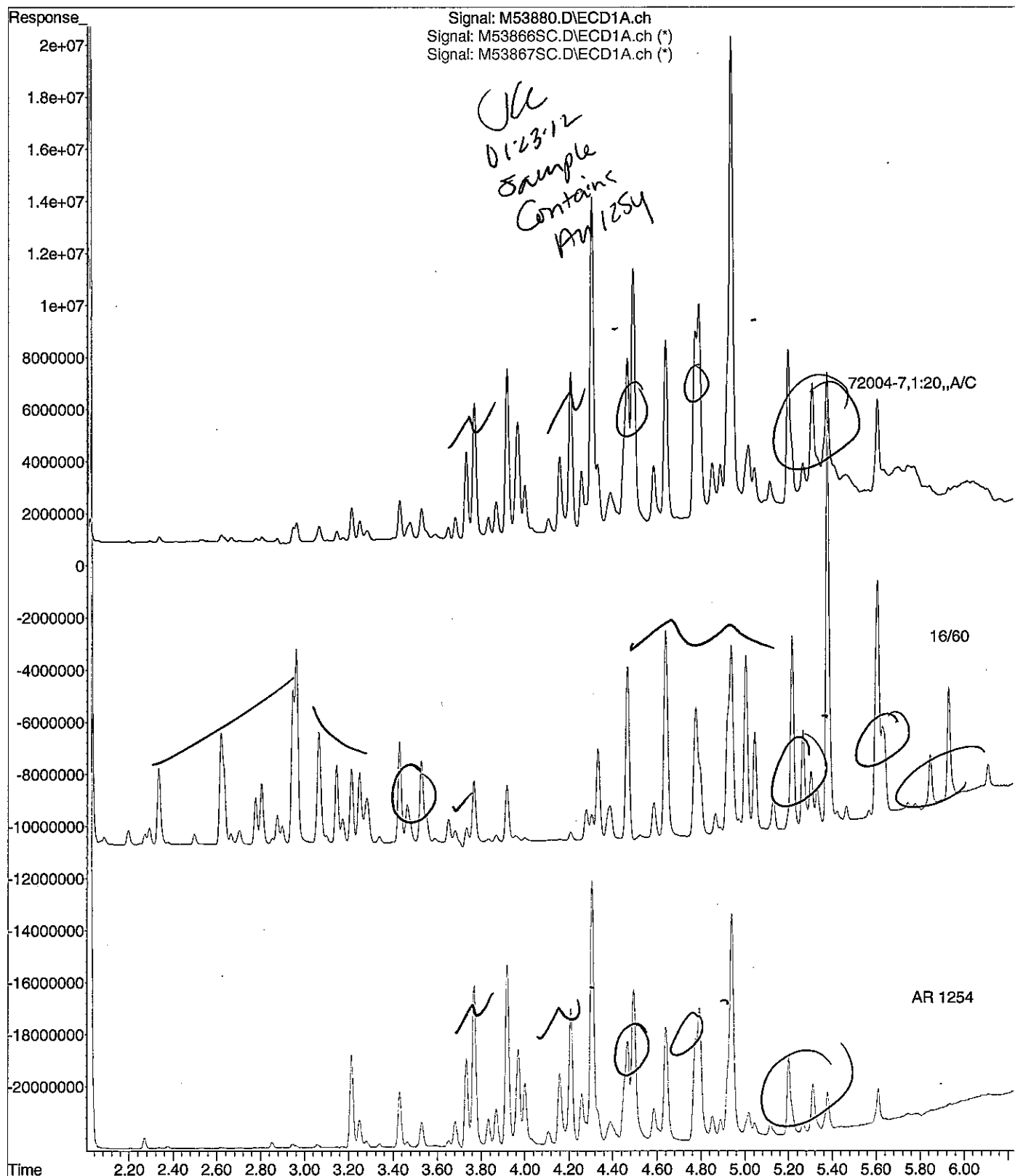
Data Path : C:\msdchem\1\DATA\012012-M\  
Data File : M53880.D  
Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch  
Acq On : 20 Jan 2012 2:34 pm  
Operator : JK  
Sample : 72004-7,1:20,,A/C  
Misc : SOIL  
ALS Vial : 18 Sample Multiplier: 1

Integration File signal 1: events.e  
Integration File signal 2: events2.e  
Quant Time: Jan 20 14:45:08 2012  
Quant Method : C:\msdchem\1\METHODS\PCB011112.M  
Quant Title : SW-846 METHOD 8082 Aroclor 1016/1260/1254  
QLast Update : Fri Jan 20 10:38:36 2012  
Response via : Initial Calibration  
Integrator: ChemStation

Volume Inj. : 2 uL  
Signal #1 Phase : STX-CLPPesticides Signal #2 Phase: STX-CLPPesticides  
Signal #1 Info : 30 m x 0.25mm x 0 Signal #2 Info : 30 m x 0.25mm x 0.25 um



File :C:\msdchem\1\DATA\012012-M\M53880.D  
Operator : JK  
Acquired : 20 Jan 2012 2:34 pm using AcqMethod PCB.M  
Instrument : Instrument M  
Sample Name: 72004-7,1:20,,A/C  
Misc Info : SOIL  
Vial Number: 18



Ms. Amy Wallace  
Woodard & Curran  
41 Hutchins Drive  
Portland ME 04102

January 23, 2012

**SAMPLE DATA**

**CLIENT SAMPLE ID**

---

**Project Name:** Peabody Terrace  
**Project Number:** 210980  
**Field Sample ID:** PTD-CBKQ-W-2326

**Lab Sample ID:** 72004-8  
**Matrix:** Aqueous  
**Percent Solid:** N/A  
**Dilution Factor:** 1.0  
**Collection Date:** 01/17/12  
**Lab Receipt Date:** 01/17/12  
**Extraction Date:** 01/20/12  
**Analysis Date:** 01/23/12

PCB ANALYTICAL RESULTS		
COMPOUND	Quantitation Limit $\mu\text{g/L}$	Results $\mu\text{g/L}$
PCB-1016	0.2	U
PCB-1221	0.2	U
PCB-1232	0.2	U
PCB-1242	0.2	U
PCB-1248	0.2	U
PCB-1254	0.2	U
PCB-1260	0.2	U
PCB-1262	0.2	U
PCB-1268	0.2	U
<b>Surrogate Standard Recovery</b>		
2,4,5,6-Tetrachloro-m-xylene	91	%
Decachlorobiphenyl	84	%
U=Undetected J=Estimated E=Exceeds Calibration Range B=Detected in Blank		

METHODOLOGY: Sample analysis conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 8082.

COMMENTS:

PCB EXT Report

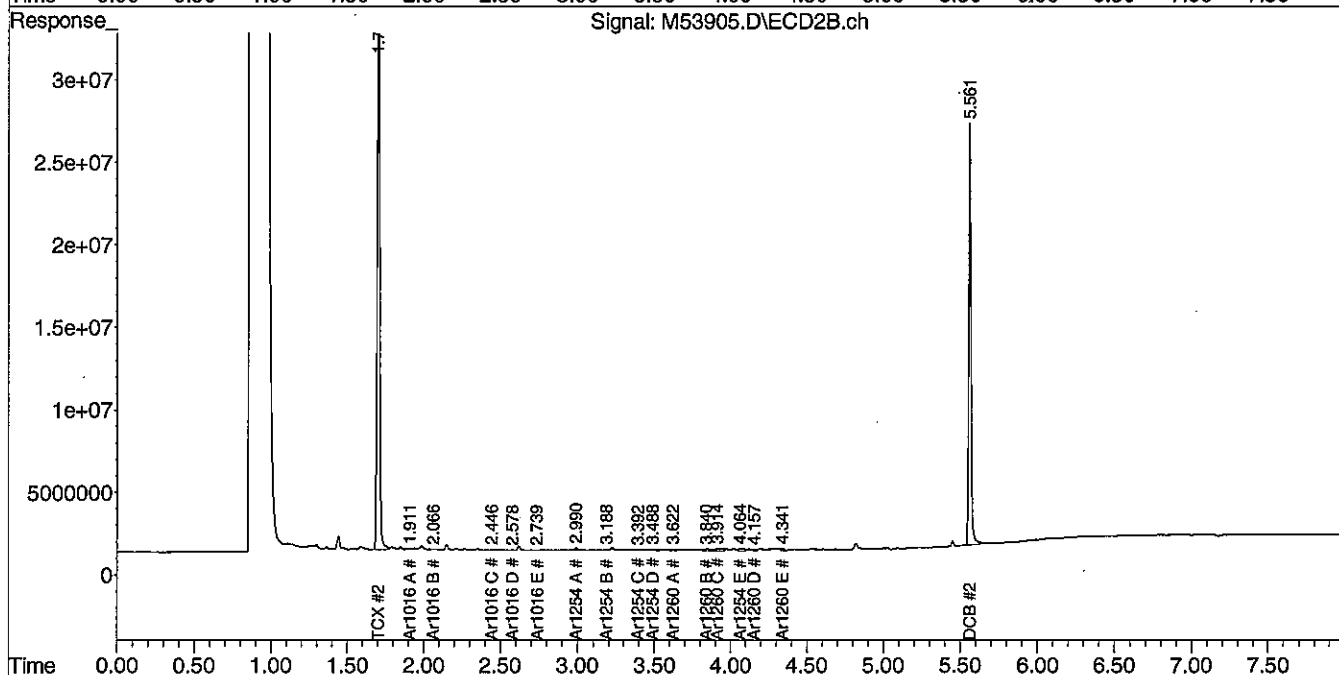
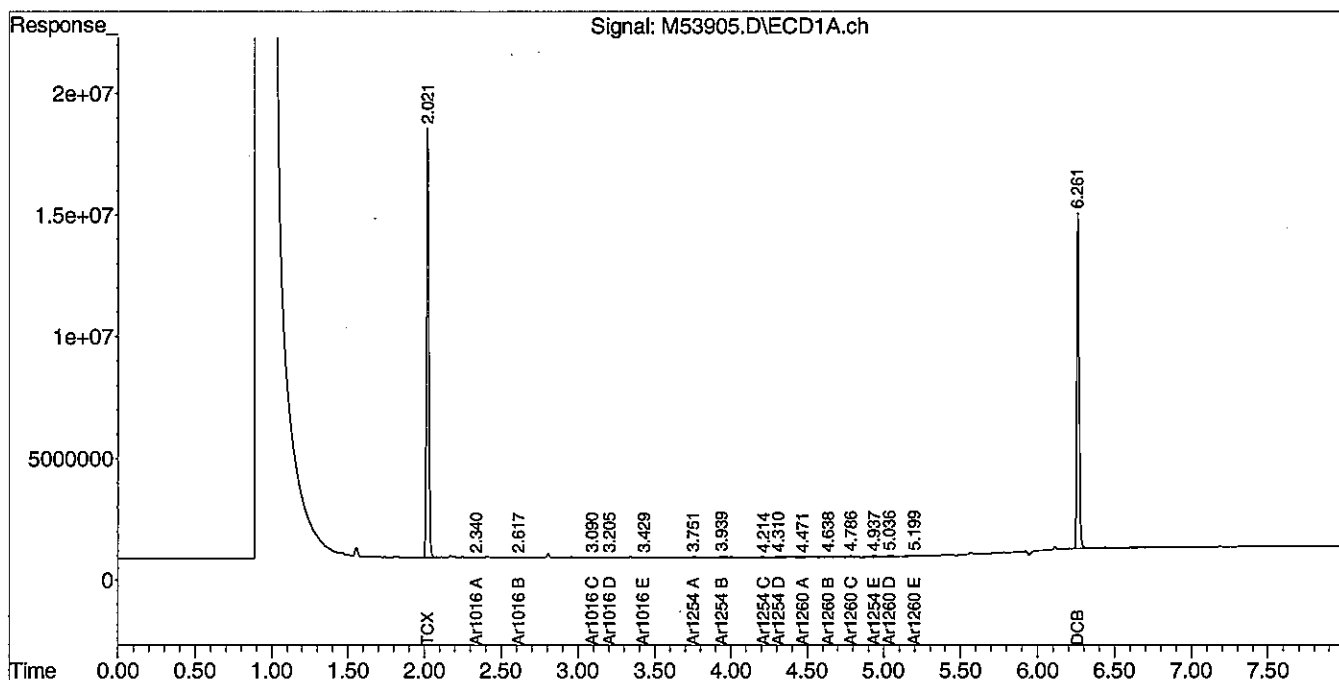
Authorized signature



Data Path : C:\msdchem\1\DATA\012312-M\  
 Data File : M53905.D  
 Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch  
 Acq On : 23 Jan 2012 10:19 am  
 Operator : JK  
 Sample : 72004-8  
 Misc :  
 ALS Vial : 9 Sample Multiplier: 1

Integration File signal 1: events.e  
 Integration File signal 2: events2.e  
 Quant Time: Jan 23 10:27:54 2012  
 Quant Method : C:\msdchem\1\METHODS\PCB011112.M  
 Quant Title : SW-846 METHOD 8082 Aroclor 1016/1260/1254  
 QLast Update : Fri Jan 20 10:38:38 2012  
 Response via : Initial Calibration  
 Integrator: ChemStation

Volume Inj. : 2 uL  
 Signal #1 Phase : STX-CLPPesticides Signal #2 Phase: STX-CLPPesticides  
 Signal #1 Info : 30 m x 0.25mm x 0.25 um Signal #2 Info : 30 m x 0.25mm x 0.25 um



PCB  
QC FORMS

## PCB SOIL

Instrument ID: M

GC Column #1: STX-CLPesticides I

Column ID: 0.25 mm

GC Column #2: STX-CLPesticides II

Column ID: 0.25 mm

SDG: 72004

[illegible]

SMC #1 = TCX

SMC #2 = DCB

# Column to be used to flag recovery values outside of QC limits

\* Values outside QC limits

D System Monitoring Compound diluted out





PCB SOIL  
LABORATORY CONTROL SAMPLE/DUPLICATE  
PERCENT RECOVERY

Instrument ID: M

GC Column #1: STX-CLPesticides I

Column ID: 0.25 mm

GC Column #2: STX-CLPesticides II

Column ID: 0.25 mm

SDG: 72004

Non-spiked sample: B011912PSOX,,A/C

Spike: L011912PSOX,,A/C

Spike duplicate: LD011912PSOX,,A/C

	LCS SPIKE	LCSD SPIKE	LOWER	UPPER	RPD	NON-SPIKE	SPIKE	SPIKE		SPIKE DUP		SPIKE DUP			
COMPOUND	ADDED (ug/kg)	ADDED (ug/kg)	LIMIT	LIMIT	LIMIT	RESULT (ug/kg)	RESULT (ug/kg)	% REC	#	RESULT (ug/kg)	% REC	#	RPD	#	
PCB 1016	200	200	65	140	30	0	164	82		188	94		14.0		
PCB 1260	200	200	60	130	30	0	164	82		193	96		16.2		
PCB 1016 #2	200	200	65	140	30	0	155	78		180	90		14.6		
PCB 1260 #2	200	200	60	130	30	0	169	85		197	98		15.2		

# Column to be used to flag recovery and RPD values outside of QC limits

\* Values outside QC limits

LCS/LCSD spike added values have been weight adjusted.

Non-spike result of "0" used in place of "U" to allow calculation of spike recovery.

Comments: \_\_\_\_\_  
\_\_\_\_\_

PCB AQUEOUS  
LABORATORY CONTROL/LABORATORY CONTROL DUPLICATE  
PERCENT RECOVERY

Instrument ID: M

GC Column #1: STX-CLPesticides I

Column ID: 0.25 mm

GC Column #2: STX-CLPesticides II

Column ID: 0.25 mm

SDG: 72004

Non-spiked sample: B012012PW

Spike: L012012PWB

Spike duplicate: LD012012PWB

COMPOUND	LCS SPIKE	LCSD SPIKE	LOWER	UPPER	RPD	NON-SPIKE	SPIKE	SPIKE	SPIKE DUP	SPIKE DUP	RPD	#
	ADDED (ug/L)	ADDED (ug/L)	LIMIT	LIMIT	LIMIT	RESULT (ug/L)	RESULT (ug/L)	% REC				
PCB 1016	2.0	2.0	79	113	25	0.00	1.90	95.14		1.848	92.40	2.9
PCB 1260	2.0	2.0	58	115	25	0.00	1.90	95.00		1.82	91.00	4.3
PCB 1016 #2	2.0	2.0	81	112	25	0.00	1.87	93.66		1.84	91.86	1.9
PCB 1260 #2	2.0	2.0	54	123	25	0.00	1.93	96.25		1.90	95.03	1.3

# Column to be used to flag recovery and RPD values outside of QC limits

\* Values outside QC limits

LCS/LCSD spike added values have been volume adjusted.

Non-spiked result of "0" used in place of "U" to allow calculation of spike recovery.

Comments: \_\_\_\_\_  
\_\_\_\_\_

## CHAIN OF CUSTODIES

<b>analytical environmental laboratory LLC</b> 195 Commerce Way Suite E Portsmouth, NH 03801 Phone (603) 436-5111 Fax (603) 430-2151				195 Commerce Way Suite E Portsmouth, NH 03801 Phone (603) 436-5111 Fax (603) 430-2151			
Project#: 210980 Proj. Name: Peabody Terrace Company: Woodard & Curran Contact: Amy Wallace Address: 41 Hutchins Drive Portland Maine				Matrix Key: C = Concrete WP = Wipe WW = Wastewater SW = Surface Water GW = Groundwater DW = Drinking Water S = Soil/Sediment O = Oil E = Extract X = Other			
Phone: 207-774-2112 PO# 207-774-2112 Sampler (Signature): <i>[Signature]</i> Quote # <i>[Blank]</i>				Preservation Unpres <input type="checkbox"/> K <sup>o</sup> C <input type="checkbox"/> HNO <sub>3</sub> <input type="checkbox"/> H <sub>2</sub> SO <sub>4</sub> <input type="checkbox"/> HCl <input type="checkbox"/> Methanol <input type="checkbox"/> Other <input type="checkbox"/>			
Station Identification		Sample Date	Sample Time	Analysis	pH Analytics Sample #		
PTD-CBK-621-2316	11/17/12	1030	PCBS		16	72004-1	
PTD-CBK-621-2317		1035			16	2	
PTD-CBK-822-2318		1040			16	3	
PTD-CBK-923-2319		1045			16	4	
PTD-CBK-922-2320		1050			16	5	
PTD-CBK-922-2321		1055			16	6	
PTD-CBK-W-2322		1100			16	7	
PTD-CBK-W-2326	11/17/12	1230	PCBS		16	8	
Station Identification		Sample Date	Sample Time	Analysis	pH Analytics Sample #		
PTD-CBK-621-2316	11/17/12	1030	PCBS		16	72004-1	
PTD-CBK-621-2317		1035			16	2	
PTD-CBK-822-2318		1040			16	3	
PTD-CBK-923-2319		1045			16	4	
PTD-CBK-922-2320		1050			16	5	
PTD-CBK-922-2321		1055			16	6	
PTD-CBK-W-2322		1100			16	7	
PTD-CBK-W-2326	11/17/12	1230	PCBS		16	8	

**Samples were:**

1) Shipped or hand-delivered *3.8*

2) Temp blank °C *3.8*

3) Received in good condition *Y* or *N*

4) pH checked by: *DW 11/17/12*

5) Labels checked by: *JB 11/17/12*

**Container Key**

P=plastic G=glass

Container number/typ

Matrix

Other

**Project Requirements:**

Report Type: ☒ MCP ☐ CTRC ☐ DOD ☐ Standard

State: ☐ NH ☒ MA ☐ ME ☐ CT ☐ RI

State Standard: (eg. S-1 or GW-1)

Level I ☒ Level II ☐ Level III ☐ Level IV ☐ Standard

Other: ☐ Fee may apply

**Date:** 11/17/12 *14:20*

**Received By:** *[Signature]*

**Date:** 11/17/12 *14:20*

**Received By:** *[Signature]*

**Comments / Instructions:**

Email Results to: *shame10@woodardcurran.com*

*A Wallace*

*J Russell*

Turnaround Request

Priority ☒ Due Date *5 day*

**PCBs 8082 Soxhlet**

**Ph 5.0 Also (-) for CL when tested with KI paper DW 11/17/12**

ANALYTICS SAMPLE RECEIPT CHECKLIST

AEL LAB#: 72004  
 CLIENT: Woodard + Curran  
 PROJECT: Pebody Terrace

COOLER NUMBER: 249  
 NUMBER OF COOLERS: 1

**A: PRELIMINARY EXAMINATION:**

1. Cooler received by (initials): DW DATE COOLER RECEIVED/OPENED: 1/17/12
2. Circle one: Hand delivered (If so, skip 3) Shipped
3. Did cooler come with a shipping slip? Y (N/A)
- 3a. Enter carrier name and airbill number here: \_\_\_\_\_
4. Were custody seals on the outside of cooler? Y (N/A)  
 How many & where: \_\_\_\_\_ Seal Date: \_\_\_\_\_ Seal Name: \_\_\_\_\_
5. Did the custody seals arrive unbroken and intact upon arrival? Y (N/A)
6. COC#: N/A
7. Were Custody papers filled out properly (ink, signed, legible, project information etc)? (Y) N
8. Were custody papers sealed in a plastic bag? Y (N)
9. Did you sign the COC in the appropriate place? (Y) N
10. Was enough ice used to chill the cooler? (Y) N Temp. of cooler: 3.8 °C

**B. Log-In:** Date samples were logged in: 1/17/12 By: DW

11. Were all bottles sealed in separate plastic bags? (Y) N
12. Did all bottles arrive unbroken and were labels in good condition? (Y) N
13. Were all bottle labels complete (ID, Date, time, etc.)? (Y) N
14. Did all bottle labels agree with custody papers? (Y) N
15. Were the correct containers used for the tests indicated? (Y) N
16. Were samples received at the correct pH? (Y) N
17. Was sufficient amount of sample sent for the tests indicated? (Y) N
18. Were all samples submitted within holding time? (Y) N
19. Were bubbles absent in VOA samples? Y (N/A)

If NO, List Sample ID's, Lab #s, and the size of the bubble(s): \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

\*When bubbles are present in VOA samples they are labelled from smallest (or no bubbles) to largest. Lab to analyze VOA samples with no bubbles or smallest bubbles first

20. Laboratory labeling verified by (initials): [Signature]

Date: 1/17/12

January 25, 2012

Ms. Amy Wallace  
Woodard & Curran  
41 Hutchins Drive  
Portland ME 04102

**RE: Analytical Results Case Narrative  
Analytics # 72034  
Peabody Terrace Project No: 210980**

Dear Ms. Wallace;

Enclosed please find the analytical results for samples submitted for the above-mentioned project. The attached Cover Page lists the sample IDs, Lab tracking numbers and collection dates for the samples included in this deliverable.

Samples were analyzed for Polychlorinated Biphenyls (PCBs) by EPA Method 8082.

Unless otherwise noted in the Non-conformance Summary listed below, all of the quality control (QC) criteria including initial calibration, calibration verification, surrogate recovery, holding time and method accuracy/precision for these analyses were within acceptable limits.

This Level II data package has been assembled in the following order:

- Case Narrative/Non-Conformance Summary
- Sample Log Sheet - Cover Page
- PCB Form 1 Data Sheet for Samples and Blanks
- Chromatograms
- PCB Form 10 Confirmation Results
- PCB Form 3 MS/MSD (LCS) Recoveries
- Chain of Custody (COC) Forms

## QC NON-CONFORMANCE SUMMARY

**Sample Receipt:**

No exceptions.

**PCBs by EPA Method 8082:**

No results were reported below the quantitation limit.

If you have any questions on these results, please do not hesitate to contact me.

Sincerely,  
ANALYTICS Environmental Laboratory, LLC



Stephen L. Knollmeyer  
Laboratory Director



Ms. Amy Wallace  
Woodard & Curran  
41 Hutchins Drive  
Portland ME 04102

**Report Number: 72034**

**Revision: Rev. 0**

**Re: Peabody Terrace (Project No: 210980)**

Enclosed are the results of the analyses on your sample(s). Samples were received on 23 January 2012 and analyzed for the tests listed. Samples were received in acceptable condition, with the exceptions noted below or on the chain of custody. These results pertain to samples as received by the laboratory and for the analytical tests requested on the chain of custody. The results reported herein conform to the most current NELAC standards, where applicable, unless otherwise narrated in the body of the report. Please see individual reports for specific methodologies and references.


<u>Lab Number</u>	<u>Sample Date</u>	<u>Station Location</u>	<u>Analysis</u>	<u>Comments</u>
72034-1	01/23/12	PTZ-CWK-121-2329	EPA 8082 (PCBs only)	
72034-2	01/23/12	PTZ-CWKQ-121-2330	Electronic Data Deliverable	
	01/23/12	PTZ-CWKQ-121-2330	EPA 8082 (PCBs only)	

**Sample Receipt Exceptions:** None

Analytics Environmental Laboratory is certified by the states of New Hampshire, Maine, Massachusetts, Connecticut, Rhode Island, Virginia, Maryland, and North Carolina, and is accredited by the Department of Defense (DOD) ELAP program. A list of actual certified parameters is available upon request.

If you have any questions on these results, please do not hesitate to contact us.

Authorized signature

  
Stephen L. Knollmeyer Lab. Director

Date

1/26/2012

**This report shall not be reproduced, except in full, without the written  
consent of Analytics Environmental Laboratory, LLC.**



### MassDEP Analytical Protocol Certification Form

Laboratory Name: Analytics Environmental Laboratory, LLC

Project #: 72034

Project Location: Peabody Terrace

RTN:

**This Form provides certifications for the following data set. Laboratory Sample ID Number(s):**

72034-1, 72034-2

Matrices: ☐ Groundwater/Surface Water ☐ Soil/Sediment ☐ Drinking Water ☐ Air ☒ Other

**CAM Protocol** (check all that apply below):

8260 VOC CAM II A <input type="checkbox"/>	7470/7471 Hg CAM III B <input type="checkbox"/>	MassDEP VPH CAM IV A <input type="checkbox"/>	8081 Pesticides CAM V B <input type="checkbox"/>	7196 Hex Cr CAM VI B <input type="checkbox"/>	MassDEP APH CAM IX A <input type="checkbox"/>
8270 SVOC CAM II B <input type="checkbox"/>	7010 Metals CAM III C <input type="checkbox"/>	MassDEP EPH CAM IV B <input type="checkbox"/>	8151 Herbicides CAM V C <input type="checkbox"/>	8330 Explosives CAM VIII A <input type="checkbox"/>	TO-15 VOC CAM IX B <input type="checkbox"/>
6010 Metals CAM III A <input type="checkbox"/>	6020 Metals CAM III D <input type="checkbox"/>	8082 PCB CAM V A <input checked="" type="checkbox"/>	9014 Total Cyanide/PAC CAM VI A <input type="checkbox"/>	6860 Perchlorate CAM VIII B <input type="checkbox"/>	

**Affirmative Responses to Questions A through F are required for "Presumptive Certainty" status**

<b>A</b>	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
<b>B</b>	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
<b>C</b>	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
<b>D</b>	Does the laboratory report comply with all reporting requirements specified in CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data"?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
<b>E</b>	a. VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? (Refer to individual method(s) for a list of significant modifications). b. APH and TO-15 Methods only: Was the complete analyte list reported for each method?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Yes <input type="checkbox"/> No
<b>F</b>	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No

**Responses to Questions G, H and I below are required for "Presumptive Certainty" status**


<b>G</b>	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <sup>1</sup>
----------	---	--

**Data User Note: Data that achieve "Presumptive Certainty" status may not necessarily meet the data usability and representativeness requirements described in 310 CMR 40.1056 (2)(k) and WSC-07-350.**

<b>H</b>	Were ALL QC performance standards specified in the CAM protocol(s) achieved?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <sup>1</sup>
<b>I</b>	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <sup>1</sup>

<sup>1</sup> All negative responses must be addressed in an attached laboratory narrative.

**I, the undersigned, attest under the pains and penalties of perjury that, based upon my personal inquiry of those responsible for obtaining the information, the material contained in this analytical report is, to the best of my knowledge and belief, accurate and complete.**

Signature: 

Position: Laboratory Director

Printed Name: Stephen L. Knollmeyer

Date: January 25, 2012

### Surrogate Compound Limits

Matrix: Units:	Aqueous % Recovery	Solid % Recovery	Method
<b>Volatile Organic Compounds - Drinking Water</b>			
1,4-Difluorobenzene	70-130		EPA 524.2
Bromofluorobenzene	70-130		
1,2-Dichlorobenzene-d4	70-130		
<b>Volatile Organic Compounds</b>			
1,2-Dichloroethane-d4	70-120	70-120	EPA 624/8260B
Toluene-d8	85-120	85-120	
Bromofluorobenzene	75-120	75-120	
<b>Semi-Volatile Organic Compounds</b>			
2-Fluorophenol	20-110	35-105	EPA 625/8270C
d5-Phenol	15-110	40-100	
d5-nitrobenzene	40-110	35-100	
2-Fluorobiphenyl	50-110	45-105	
2,4,6-Tribromophenol	40-110	40-125	
d14-p-terphenyl	50-130	30-125	
<b>PAH's by SIM</b>			
d5-nitrobenzene	21-110	35-110	EPA 8270C
2-Fluorobiphenyl	36-121	45-105	
d14-p-terphenyl	33-141	30-125	
<b>Pesticides and PCBs</b>			
2,4,5,6-Tetrachloro-m-xylene (TCX)	46-122	40-130	EPA 608/8082
Decachlorobiphenyl (DCB)	40-135	40-130	
<b>Herbicides</b>			
Dichloroacetic acid (DCAA)	30-150	30-150	
<b>Gasoline Range Organics/TPH Gasoline</b>			
Trifluorotoluene TFT (FID)	60-140	60-140	MEDEP 4217/EPA 8015
Bromofluorobenzene (BFB) (FID)	60-140	60-140	
Trifluorotoluene TFT (PID)	60-140	60-140	
Bromofluorobenzene (BFB) (PID)	60-140	60-140	
<b>Diesel Range Organics/TPH Diesel</b>			
m-terphenyl	60-140	60-140	MEDEP 4125/EPA 8015/CT ETPH
<b>Volatile Petroleum Hydrocarbons</b>			
2,5-Dibromotoluene (PID)	70-130	70-130	MADEP VPH May 2004 Rev1.1
2,5-Dibromotoluene (FID)	70-130	70-130	
<b>Extracatable Petroleum Hydrocarbons</b>			
1-chloro-octadecane (aliphatic)	40-140	40-140	MADEP EPH May 2004 Rev1.1
o-Terphenyl (aromatic)	40-140	40-140	
2-Fluorobiphenyl (Fractionation)	40-140	40-140	
2-Bromonaphthalene (fractionation)	40-140	40-140	

## PCB DATA SUMMARIES

Ms. Amy Wallace  
Woodard & Curran  
41 Hutchins Drive  
Portland ME 04102

January 25, 2012

**SAMPLE DATA**

**CLIENT SAMPLE ID**

**Project Name:** Peabody Terrace  
**Project Number:** 210980  
**Field Sample ID:** Lab QC

**Lab Sample ID:** B012312PSOX  
**Matrix:** Wipe  
**Percent Solid:** N/A  
**Dilution Factor:** 1.0  
**Collection Date:**  
**Lab Receipt Date:**  
**Extraction Date:** 01/23/12  
**Analysis Date:** 01/24/12

**PCB ANALYTICAL RESULTS**

COMPOUND	Quantitation Limit µg/wipe	Results µg/wipe
PCB-1016	0.5	U
PCB-1221	0.5	U
PCB-1232	0.5	U
PCB-1242	0.5	U
PCB-1248	0.5	U
PCB-1254	0.5	U
PCB-1260	0.5	U
PCB-1262	0.5	U
PCB-1268	0.5	U
<b><u>Surrogate Standard Recovery</u></b>		
2,4,5,6-Tetrachloro-m-xylene	96	%
Decachlorobiphenyl	89	%
U=Undetected J=Estimated E=Exceeds Calibration Range B=Detected in Blank		

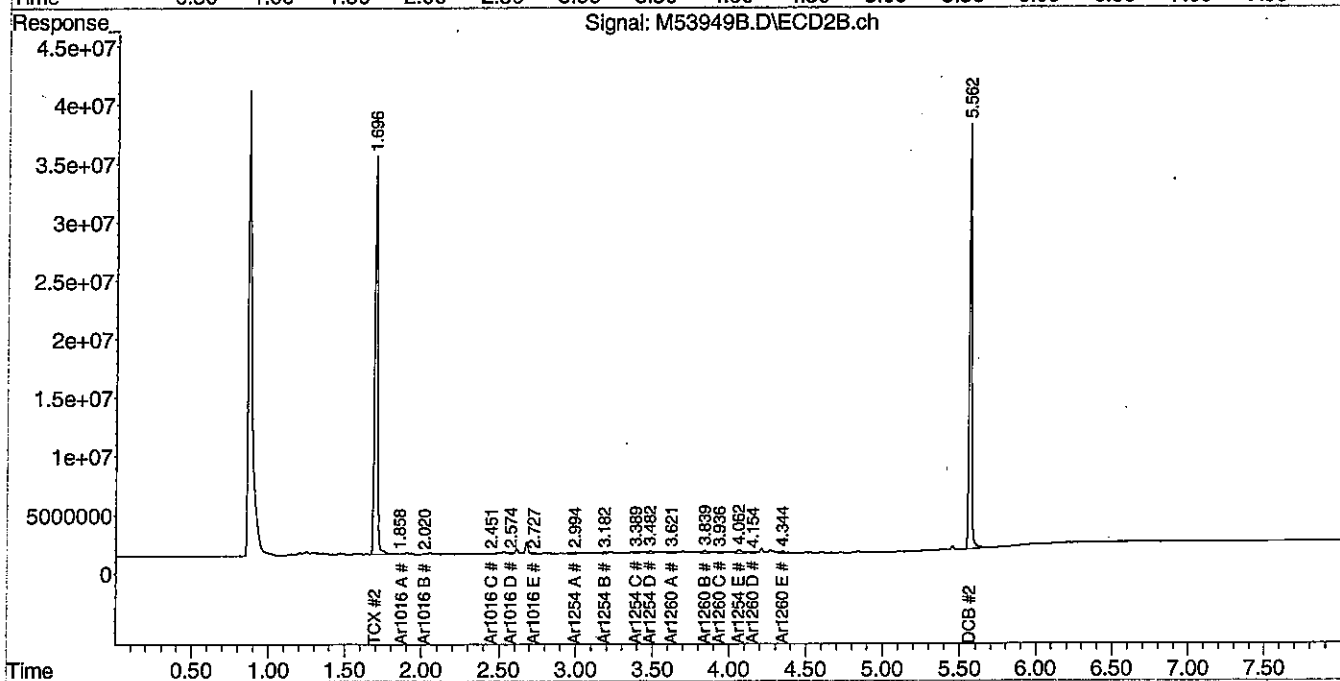
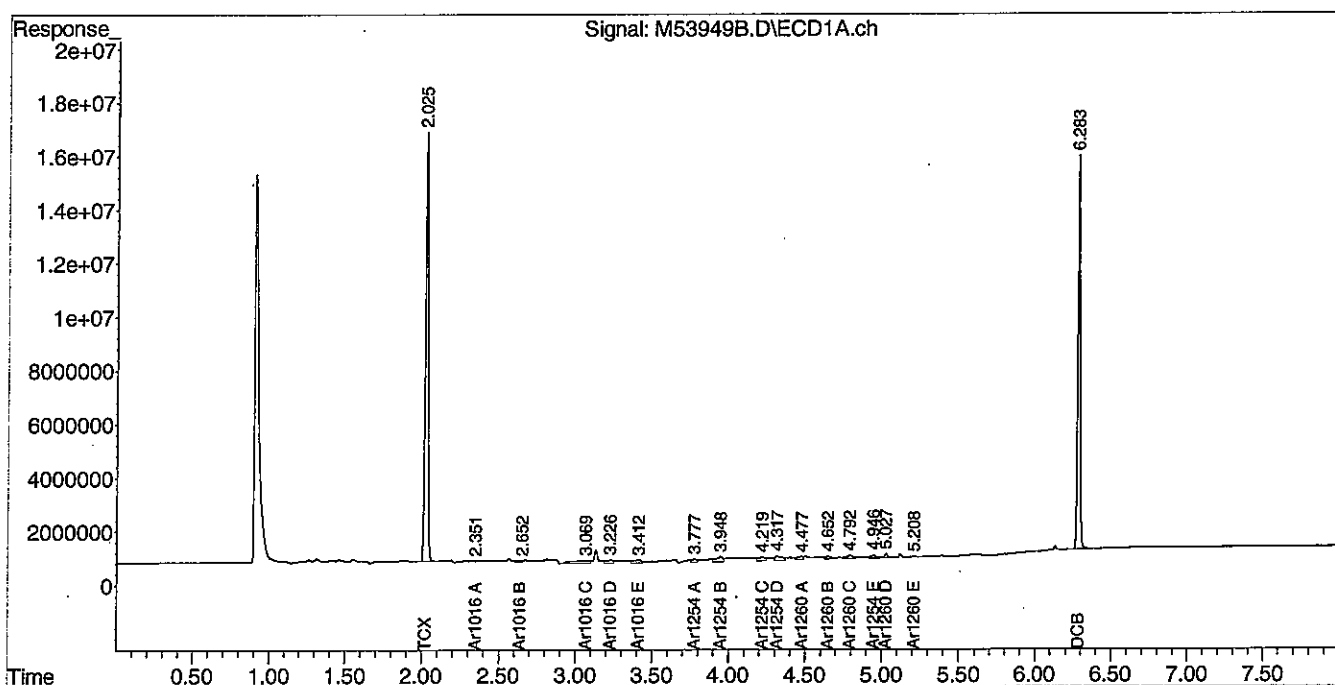
**METHODOLOGY:** Sample analysis conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 8082.  
Sample preparation conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 3540C.  
Sample cleanup was conducted according to SW-846 Method 3665A.

**COMMENTS:**

Data Path : C:\msdchem\1\DATA\012412-M\  
 Data File : M53949B.D  
 Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch  
 Acq On : 24 Jan 2012 12:21 pm  
 Operator : JK  
 Sample : B012312PSOX,,A/C  
 Misc : SOIL  
 ALS Vial : 6 Sample Multiplier: 1

Integration File signal 1: events.e  
 Integration File signal 2: events2.e  
 Quant Time: Jan 25 08:39:18 2012  
 Quant Method : C:\msdchem\1\METHODS\PCB011112.M  
 Quant Title : SW-846 METHOD 8082 Aroclor 1016/1260/1254  
 QLast Update : Fri Jan 20 10:38:36 2012  
 Response via : Initial Calibration  
 Integrator: ChemStation

Volume Inj. : 2 uL  
 Signal #1 Phase : STX-CLPPesticides Signal #2 Phase: STX-CLPPesticides  
 Signal #1 Info : 30 m x 0.25mm x 0 Signal #2 Info : 30 m x 0.25mm x 0.25 um



Ms. Amy Wallace  
Woodard & Curran  
41 Hutchins Drive  
Portland ME 04102

January 25, 2012

**SAMPLE DATA**

**CLIENT SAMPLE ID**

---

**Project Name:** Peabody Terrace  
**Project Number:** 210980  
**Field Sample ID:** PTZ-CWK-121-2329

**Lab Sample ID:** 72034-1  
**Matrix:** Wipe  
**Percent Solid:** N/A  
**Dilution Factor:** 1.0  
**Collection Date:** 01/23/12  
**Lab Receipt Date:** 01/23/12  
**Extraction Date:** 01/23/12  
**Analysis Date:** 01/24/12

**PCB ANALYTICAL RESULTS**

COMPOUND	Quantitation Limit µg/wipe	Results µg/wipe
PCB-1016	0.5	U
PCB-1221	0.5	U
PCB-1232	0.5	U
PCB-1242	0.5	U
PCB-1248	0.5	U
PCB-1254	0.5	U
PCB-1260	0.5	U
PCB-1262	0.5	U
PCB-1268	0.5	U
<b><u>Surrogate Standard Recovery</u></b>		
2,4,5,6-Tetrachloro-m-xylene	82	%
Decachlorobiphenyl	69	%
U=Undetected J=Estimated E=Exceeds Calibration Range B=Detected in Blank		

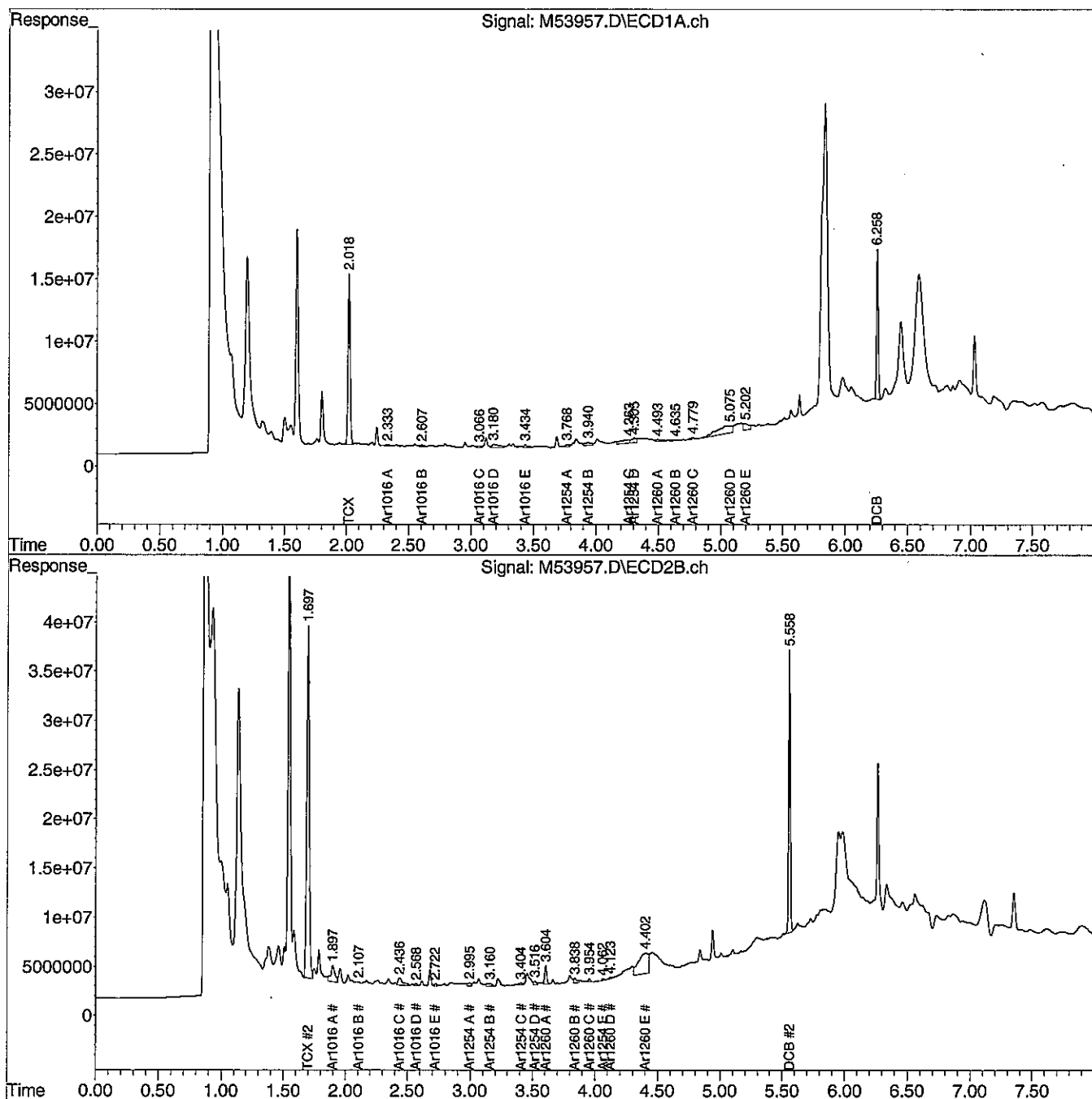
**METHODOLOGY:** Sample analysis conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 8082.  
Sample preparation conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 3540C.  
Sample cleanup was conducted according to SW-846 Method 3665A.

**COMMENTS:**

Data Path : C:\msdchem\1\DATA\012412-M\  
Data File : M53957.D  
Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch  
Acq On : 24 Jan 2012 1:51 pm  
Operator : JK  
Sample : 72034-1,,A/C  
Misc : SOIL  
ALS Vial : 14 Sample Multiplier: 1

Integration File signal 1: events.e  
Integration File signal 2: events2.e  
Quant Time: Jan 25 08:39:34 2012  
Quant Method : C:\msdchem\1\METHODS\PCB011112.M  
Quant Title : SW-846 METHOD 8082 Aroclor 1016/1260/1254  
QLast Update : Fri Jan 20 10:38:38 2012  
Response via : Initial Calibration  
Integrator: ChemStation

Volume Inj. : 2 uL  
Signal #1 Phase : STX-CLPPesticides Signal #2 Phase: STX-CLPPesticides  
Signal #1 Info : 30 m x 0.25mm x 0.25 um Signal #2 Info : 30 m x 0.25mm x 0.25 um



Ms. Amy Wallace  
Woodard & Curran  
41 Hutchins Drive  
Portland ME 04102

January 25, 2012

**SAMPLE DATA**

**CLIENT SAMPLE ID**

---

**Project Name:** Peabody Terrace  
**Project Number:** 210980  
**Field Sample ID:** PTZ-CWKQ-121-2330

**Lab Sample ID:** 72034-2  
**Matrix:** Wipe  
**Percent Solid:** N/A  
**Dilution Factor:** 1.0  
**Collection Date:** 01/23/12  
**Lab Receipt Date:** 01/23/12  
**Extraction Date:** 01/23/12  
**Analysis Date:** 01/24/12

**PCB ANALYTICAL RESULTS**

COMPOUND	Quantitation Limit µg/wipe	Results µg/wipe
PCB-1016	0.5	U
PCB-1221	0.5	U
PCB-1232	0.5	U
PCB-1242	0.5	U
PCB-1248	0.5	U
PCB-1254	0.5	U
PCB-1260	0.5	U
PCB-1262	0.5	U
PCB-1268	0.5	U
<b><u>Surrogate Standard Recovery</u></b>		
2,4,5,6-Tetrachloro-m-xylene	150	%
Decachlorobiphenyl	120	%
U=Undetected J=Estimated E=Exceeds Calibration Range B=Detected in Blank		

**METHODOLOGY:** Sample analysis conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 8082.  
Sample preparation conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 3540C.  
Sample cleanup was conducted according to SW-846 Method 3665A.

**COMMENTS:**

PCB EXT Report

Authorized signature

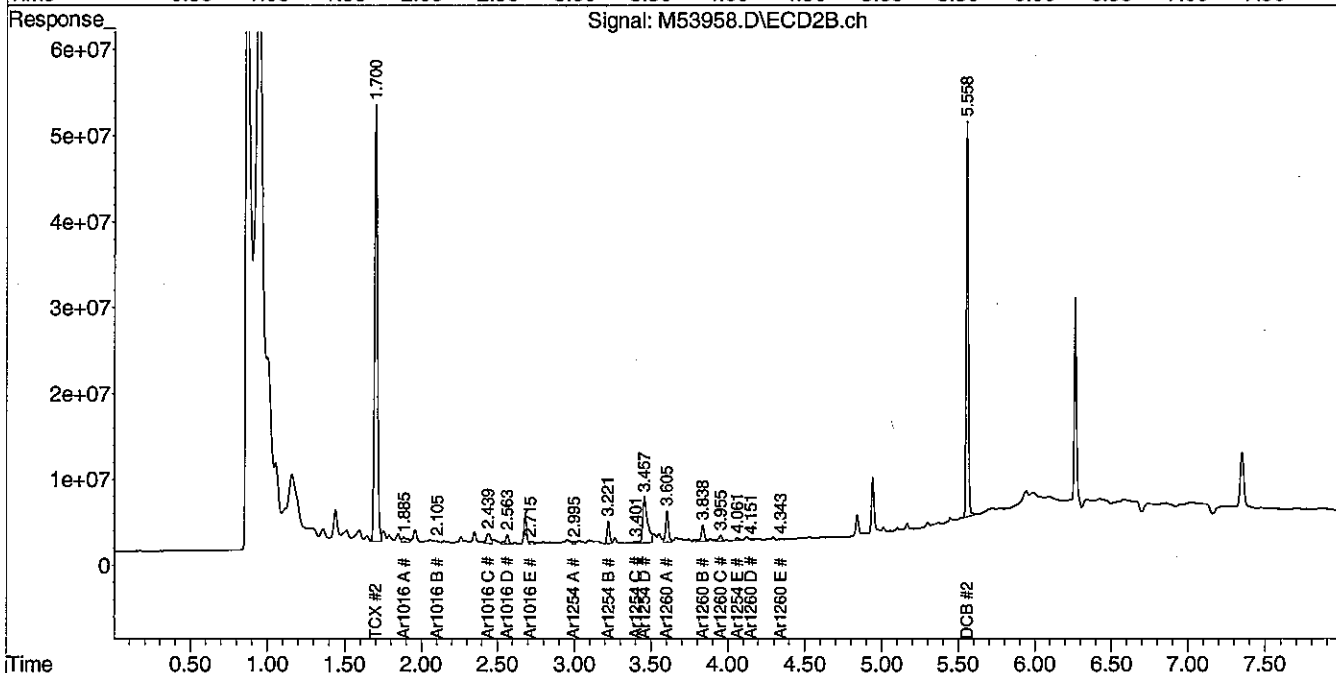
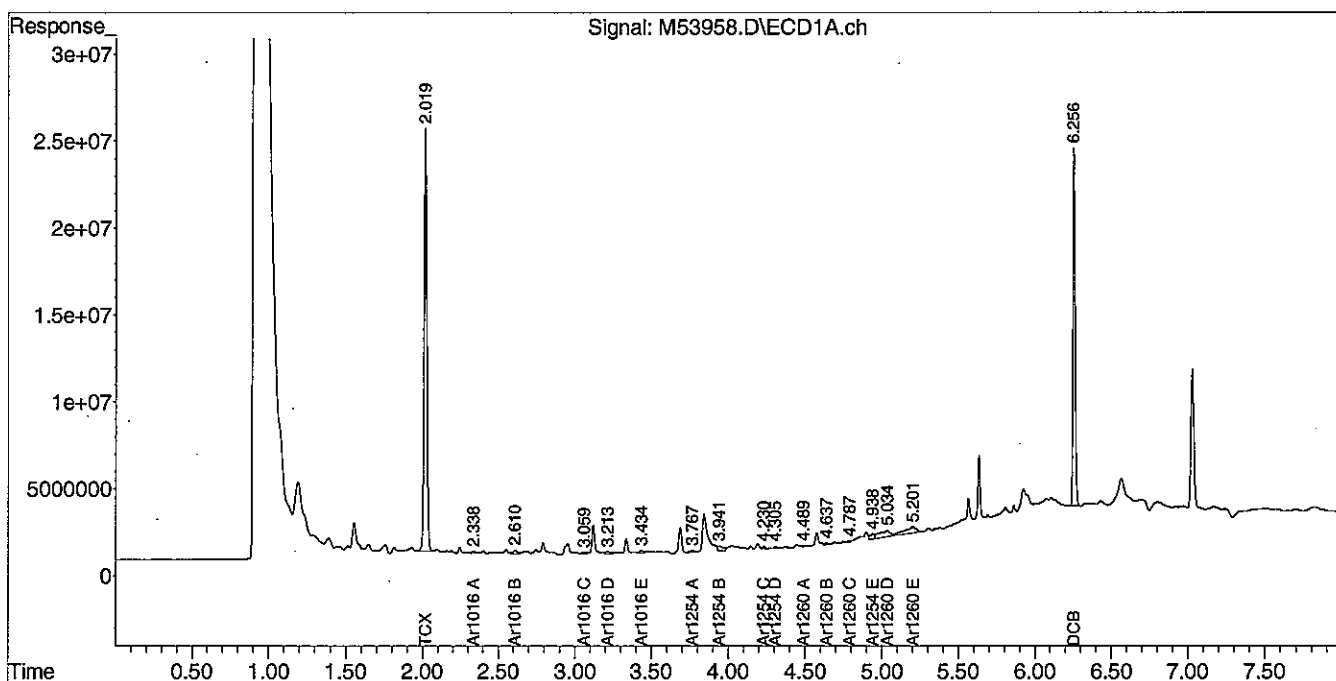




Data Path : C:\msdchem\1\DATA\012412-M\  
Data File : M53958.D  
Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch  
Acq On : 24 Jan 2012 2:01 pm  
Operator : JK  
Sample : 72034-2,,A/C  
Misc : SOIL  
ALS Vial : 15 Sample Multiplier: 1

Integration File signal 1: events.e  
Integration File signal 2: events2.e  
Quant Time: Jan 25 08:39:36 2012  
Quant Method : C:\msdchem\1\METHODS\PCB011112.M  
Quant Title : SW-846 METHOD 8082 Aroclor 1016/1260/1254  
QLast Update : Fri Jan 20 10:38:38 2012  
Response via : Initial Calibration  
Integrator: ChemStation

Volume Inj. : 2 uL  
Signal #1 Phase : STX-CLPPesticides Signal #2 Phase: STX-CLPPesticides  
Signal #1 Info : 30 m x 0.25mm x 0.25 um Signal #2 Info : 30 m x 0.25mm x 0.25 um



PCB  
QC FORMS



PCB SOIL  
LABORATORY CONTROL SAMPLE/DUPLICATE  
PERCENT RECOVERY

Instrument ID: M

GC Column #1: STX-CLPesticides I

Column ID: 0.25 mm

GC Column #2: STX-CLPesticides II

Column ID: 0.25 mm

SDG: 72034

Non-spiked sample: B012312PSOX,,A/C

Spike: L012312PSOX,,A/C

Spike duplicate: LD012312PSOX,,A/C

	LCS SPIKE	LCSD SPIKE	LOWER	UPPER	RPD	NON-SPIKE	SPIKE	SPIKE		SPIKE DUP		SPIKE DUP			
COMPOUND	ADDED (ug/kg)	ADDED (ug/kg)	LIMIT	LIMIT	LIMIT	RESULT (ug/kg)	RESULT (ug/kg)	% REC	#	RESULT (ug/kg)	% REC	#	RPD	#	
PCB 1016	200	200	65	140	30	0	197	99		195	98		1.0		
PCB 1260	200	200	60	130	30	0	197	99		195	98		1.2		
PCB 1016 #2	200	200	65	140	30	0	188	94		200	100		6.0		
PCB 1260 #2	200	200	60	130	30	0	211	105		210	105		0.6		

# Column to be used to flag recovery and RPD values outside of QC limits

\* Values outside QC limits

LCS/LCSD spike added values have been weight adjusted.

Non-spike result of "0" used in place of "U" to allow calculation of spike recovery.

Comments: \_\_\_\_\_  
\_\_\_\_\_

## CHAIN OF CUSTODIES

[illegible]

ANALYTICS SAMPLE RECEIPT CHECKLIST

AEL LAB#: 72034  
 CLIENT: Woodard & Curran  
 PROJECT: Peabody Terrace

COOLER NUMBER: 29  
 NUMBER OF COOLERS: 1

**A: PRELIMINARY EXAMINATION:**

1. Cooler received by (initials): DW DATE COOLER RECEIVED/OPENED: 1/23/12
2. Circle one: Hand delivered  
(If so, skip 3) Shipped
3. Did cooler come with a shipping slip? Y N/A
- 3a. Enter carrier name and airbill number here: \_\_\_\_\_
4. Were custody seals on the outside of cooler? Y N/A  
 How many & where: \_\_\_\_\_ Seal Date: \_\_\_\_\_ Seal Name: \_\_\_\_\_
5. Did the custody seals arrive unbroken and intact upon arrival? Y N/A
6. COC#: \_\_\_\_\_
7. Were Custody papers filled out properly (ink, signed, legible, project information etc)? Y N
8. Were custody papers sealed in a plastic bag? Y N
9. Did you sign the COC in the appropriate place? Y N
10. Was enough ice used to chill the cooler? Y N Temp. of cooler: 7.3°

**B. Log-In:** Date samples were logged in: 1/23/12 By: DW

11. Were all bottles sealed in separate plastic bags? Y N
12. Did all bottles arrive unbroken and were labels in good condition? Y N
13. Were all bottle labels complete (ID, Date, time, etc.) Y N
14. Did all bottle labels agree with custody papers? Y N
15. Were the correct containers used for the tests indicated: Y N
16. Were samples received at the correct pH? Y N/A
17. Was sufficient amount of sample sent for the tests indicated? Y N
18. Were all samples submitted within holding time? Y N
19. Were bubbles absent in VOA samples? Y N/A

If NO, List Sample ID's, Lab #s, and the size of the bubble(s): \_\_\_\_\_

\*When bubbles are present in VOA samples they are labelled from smallest (or no bubbles) to largest. Lab to analyze VOA samples with no bubbles or smallest bubbles first

20. Laboratory labeling verified by (initials): lmt Date: 1.23.12

February 3, 2012

Ms. Amy Wallace  
Woodard & Curran  
41 Hutchins Drive  
Portland ME 04102

**RE: Analytical Results Case Narrative  
Analytics # 72067  
Peabody Terrace Project No: 210980**

Dear Ms. Wallace;

Enclosed please find the analytical results for samples submitted for the above-mentioned project. The attached Cover Page lists the sample IDs, Lab tracking numbers and collection dates for the samples included in this deliverable.

Samples were analyzed for Polychlorinated Biphenyls (PCBs) by EPA Method 8082.

Unless otherwise noted in the Non-conformance Summary listed below, all of the quality control (QC) criteria including initial calibration, calibration verification, surrogate recovery, holding time and method accuracy/precision for these analyses were within acceptable limits.

This Level II data package has been assembled in the following order:

- Case Narrative/Non-Conformance Summary
- Sample Log Sheet - Cover Page
- PCB Form 1 Data Sheet for Samples and Blanks
- Chromatograms
- PCB Form 10 Confirmation Results
- PCB Form 3 MS/MSD (LCS) Recoveries
- Chain of Custody (COC) Forms





## ANALYTICAL REPORT

Lab Number:	L1200626
Client:	Woodard & Curran 41 Hutchins Drive Portland, ME 04102
ATTN:	Amy Wallace
Phone:	(207) 774-2112
Project Name:	PEABODY TERRACE
Project Number:	210980
Report Date:	01/18/12

The original project report/data package is held by Alpha Analytical. This report/data package is paginated and should be reproduced only in its entirety. Alpha Analytical holds no responsibility for results and/or data that are not consistent with the original.

Certifications & Approvals: NY (11627), CT (PH-0141), NH (2206), NJ NELAP (MA015), RI (LAO00299), PA (68-02089), LA NELAP (03090), FL (E87814), TX (T104704419), WA (C954), DOD (L2217.01), USDA (Permit #P330-11-00109), US Army Corps of Engineers.

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320 Forbes Boulevard, Mansfield, MA 02048-1806  
508-822-9300 (Fax) 508-822-3288 800-624-9220 - [www.alphalab.com](http://www.alphalab.com)



**Project Name:** PEABODY TERRACE  
**Project Number:** 210980

**Lab Number:** L1200626  
**Report Date:** 01/18/12

<b>Alpha Sample ID</b>	<b>Client ID</b>	<b>Sample Location</b>	<b>Collection Date/Time</b>
L1200626-01	PTD-CAR-632-2037	CAMBRIDGE, MA	01/11/12 09:59
L1200626-02	PTZ-CAR-121-2045	CAMBRIDGE, MA	01/11/12 10:40
L1200626-03	PTD-CAR-5-2046	CAMBRIDGE, MA	01/11/12 10:50

**Project Name:** PEABODY TERRACE  
**Project Number:** 210980

**Lab Number:** L1200626  
**Report Date:** 01/18/12

### Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet all of the requirements of NELAC, for all NELAC accredited parameters. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively. When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

Please see the associated ADEx data file for a comparison of laboratory reporting limits that were achieved with the regulatory Numerical Standards requested on the Chain of Custody.

For additional information, please contact Client Services at 800-624-9220.

---

### PCB Homologs

The surrogate recoveries for L1200626-02 were outside the acceptance criteria for Cl3-BZ#19-C13 (10%) and Cl8-BZ#202-C13 (30%); however, re-extraction could not be performed due to sample matrix. The results of the original analysis are reported; however, all associated compounds are considered to have a potential bias.

The WG513803-1 Method Blank, associated with L1200626-01 through -03, has concentrations above the reporting limits for Heptachlorobiphenyls and Octachlorobiphenyls and the resulting total PCB. Since the sample(s) were non-detect for these target analytes, no further actions were taken. The results of the original analysis are reported.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature:  Cynthia McQueen

Title: Technical Director/Representative

Date: 01/18/12

# ORGANICS

# SEMIVOLATILES

**Project Name:** PEABODY TERRACE**Lab Number:** L1200626**Project Number:** 210980**Report Date:** 01/18/12**SAMPLE RESULTS**

**Lab ID:** L1200626-01  
**Client ID:** PTD-CAR-632-2037  
**Sample Location:** CAMBRIDGE, MA  
**Matrix:** Air Cartridge  
**Analytical Method:** 105,680/8270C-SIM(M)  
**Analytical Date:** 01/17/12 19:56  
**Analyst:** JS

**Date Collected:** 01/11/12 09:59  
**Date Received:** 01/11/12  
**Field Prep:** Not Specified  
**Extraction Method:** EPA 3540C  
**Extraction Date:** 01/16/12 11:30

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB Homologs by GC/MS-SIM (LowVol) - Mansfield Lab						
Monochlorobiphenyls	ND		ng/cart	10.0	--	1
Dichlorobiphenyls	ND		ng/cart	10.0	--	1
Trichlorobiphenyls	ND		ng/cart	10.0	--	1
Tetrachlorobiphenyls	17.0		ng/cart	10.0	--	1
Pentachlorobiphenyls	19.5		ng/cart	10.0	--	1
Hexachlorobiphenyls	ND		ng/cart	10.0	--	1
Heptachlorobiphenyls	ND		ng/cart	10.0	--	1
Octachlorobiphenyls	ND		ng/cart	10.0	--	1
Nonachlorobiphenyls	ND		ng/cart	10.0	--	1
Decachlorobiphenyl	ND		ng/cart	10.0	--	1
Total Homologs	36.5	B	ng/cart	10.0	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Cl3-BZ#19-C13	100		50-125
Cl8-BZ#202-C13	101		50-125

**Project Name:** PEABODY TERRACE**Lab Number:** L1200626**Project Number:** 210980**Report Date:** 01/18/12**SAMPLE RESULTS**

**Lab ID:** L1200626-02  
**Client ID:** PTZ-CAR-121-2045  
**Sample Location:** CAMBRIDGE, MA  
**Matrix:** Air Cartridge  
**Analytical Method:** 105,680/8270C-SIM(M)  
**Analytical Date:** 01/17/12 20:52  
**Analyst:** JS

**Date Collected:** 01/11/12 10:40  
**Date Received:** 01/11/12  
**Field Prep:** Not Specified  
**Extraction Method:** EPA 3540C  
**Extraction Date:** 01/16/12 11:30

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB Homologs by GC/MS-SIM (LowVol) - Mansfield Lab						
Monochlorobiphenyls	ND		ng/cart	10.0	--	1
Dichlorobiphenyls	ND		ng/cart	10.0	--	1
Trichlorobiphenyls	ND		ng/cart	10.0	--	1
Tetrachlorobiphenyls	ND		ng/cart	10.0	--	1
Pentachlorobiphenyls	ND		ng/cart	10.0	--	1
Hexachlorobiphenyls	ND		ng/cart	10.0	--	1
Heptachlorobiphenyls	ND		ng/cart	10.0	--	1
Octachlorobiphenyls	ND		ng/cart	10.0	--	1
Nonachlorobiphenyls	ND		ng/cart	10.0	--	1
Decachlorobiphenyl	ND		ng/cart	10.0	--	1
Total Homologs	ND		ng/cart	10.0	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Cl3-BZ#19-C13	10	Q	50-125
Cl8-BZ#202-C13	30	Q	50-125

**Project Name:** PEABODY TERRACE**Lab Number:** L1200626**Project Number:** 210980**Report Date:** 01/18/12**SAMPLE RESULTS**

**Lab ID:** L1200626-03  
**Client ID:** PTD-CAR-5-2046  
**Sample Location:** CAMBRIDGE, MA  
**Matrix:** Air Cartridge  
**Analytical Method:** 105,680/8270C-SIM(M)  
**Analytical Date:** 01/17/12 21:48  
**Analyst:** JS

**Date Collected:** 01/11/12 10:50  
**Date Received:** 01/11/12  
**Field Prep:** Not Specified  
**Extraction Method:** EPA 3540C  
**Extraction Date:** 01/16/12 11:30

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB Homologs by GC/MS-SIM (LowVol) - Mansfield Lab						
Monochlorobiphenyls	ND		ng/cart	10.0	--	1
Dichlorobiphenyls	ND		ng/cart	10.0	--	1
Trichlorobiphenyls	ND		ng/cart	10.0	--	1
Tetrachlorobiphenyls	ND		ng/cart	10.0	--	1
Pentachlorobiphenyls	ND		ng/cart	10.0	--	1
Hexachlorobiphenyls	ND		ng/cart	10.0	--	1
Heptachlorobiphenyls	ND		ng/cart	10.0	--	1
Octachlorobiphenyls	ND		ng/cart	10.0	--	1
Nonachlorobiphenyls	ND		ng/cart	10.0	--	1
Decachlorobiphenyl	ND		ng/cart	10.0	--	1
Total Homologs	ND		ng/cart	10.0	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Cl3-BZ#19-C13	102		50-125
Cl8-BZ#202-C13	98		50-125



Project Name: PEABODY TERRACE

Lab Number: L1200626

Project Number: 210980

Report Date: 01/18/12

### Method Blank Analysis Batch Quality Control

Analytical Method: 105,680/8270C-SIM(M)

Extraction Method: EPA 3540C

Analytical Date: 01/17/12 15:14

Extraction Date: 01/16/12 11:30

Analyst: JS

Parameter	Result	Qualifier	Units	RL	MDL
PCB Homologs by GC/MS-SIM (LowVol) - Mansfield Lab for sample(s): 01-03 Batch: WG513803-1					
Monochlorobiphenyls	ND		ng/cart	10.0	--
Dichlorobiphenyls	ND		ng/cart	10.0	--
Trichlorobiphenyls	ND		ng/cart	10.0	--
Tetrachlorobiphenyls	ND		ng/cart	10.0	--
Pentachlorobiphenyls	ND		ng/cart	10.0	--
Hexachlorobiphenyls	ND		ng/cart	10.0	--
Heptachlorobiphenyls	12.4		ng/cart	10.0	--
Octachlorobiphenyls	20.8		ng/cart	10.0	--
Nonachlorobiphenyls	ND		ng/cart	10.0	--
Decachlorobiphenyl	ND		ng/cart	10.0	--
Total Homologs	33.2		ng/cart	10.0	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
Cl3-BZ#19-C13	101		50-125
Cl8-BZ#202-C13	101		50-125

# Lab Control Sample Analysis

## Batch Quality Control

Project Name: PEABODY TERRACE

Project Number: 210980

Lab Number: L1200626

Report Date: 01/18/12

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
PCB Homologs by GC/MS-SIM (LowVol) - Mansfield Lab Associated sample(s): 01-03 Batch: WG513803-2								
Cl1-BZ#1	104		-		40-140	-		30
CL1-BZ#3	106		-		40-140	-		30
Cl2-BZ#4/#10	117		-		40-140	-		30
Cl2-BZ#5/#8	96		-		40-140	-		30
Cl3-BZ#19	110		-		40-140	-		30
Cl3-BZ#18	91		-		40-140	-		30
Cl2-BZ#15	92		-		40-140	-		30
Cl4-BZ#54	108		-		40-140	-		30
Cl3-BZ#29	90		-		40-140	-		30
Cl4-BZ#50	113		-		40-140	-		30
Cl3-BZ#28/#31	96		-		40-140	-		30
Cl4-BZ#45	112		-		40-140	-		30
Cl4-BZ#52	97		-		40-140	-		30
Cl4-BZ#43/#49	106		-		40-140	-		30
Cl4-Bz#47/#48	100		-		40-140	-		30
Cl5-BZ#104	104		-		40-140	-		30
Cl4-BZ#44	96		-		40-140	-		30
Cl3-BZ#37	80		-		40-140	-		30
Cl4-BZ#74	94		-		40-140	-		30
Cl6-BZ#155	108		-		40-140	-		30
Cl4-BZ#70	96		-		40-140	-		30

# Lab Control Sample Analysis

## Batch Quality Control

Project Name: PEABODY TERRACE

Project Number: 210980

Lab Number: L1200626

Report Date: 01/18/12

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
PCB Homologs by GC/MS-SIM (LowVol) - Mansfield Lab Associated sample(s): 01-03 Batch: WG513803-2								
Cl4-BZ#66	94		-		40-140	-		30
Cl5-BZ#95	96		-		40-140	-		30
Cl4-BZ#56/#60	87		-		40-140	-		30
Cl5-BZ#101/#84	106		-		40-140	-		30
Cl5-BZ#99	98		-		40-140	-		30
Cl6-BZ#154	97		-		40-140	-		30
Cl5-BZ#110	88		-		40-140	-		30
Cl4-BZ#81	92		-		40-140	-		30
Cl5-BZ#87	100		-		40-140	-		30
Cl6-BZ#151	93		-		40-140	-		30
Cl4-BZ#77	88		-		40-140	-		30
Cl5-BZ#123	88		-		40-140	-		30
Cl6-BZ#149	100		-		40-140	-		30
Cl7-BZ#188	95		-		40-140	-		30
Cl5-BZ#118	91		-		40-140	-		30
Cl6-BZ#146	94		-		40-140	-		30
Cl5-BZ#114	89		-		40-140	-		30
Cl6-BZ#153	91		-		40-140	-		30
Cl6-BZ#138/#163	76		-		40-140	-		30
Cl6-BZ#158	93		-		40-140	-		30
Cl5-BZ#105	78		-		40-140	-		30

# Lab Control Sample Analysis

## Batch Quality Control

Project Name: PEABODY TERRACE

Project Number: 210980

Lab Number: L1200626

Report Date: 01/18/12

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
PCB Homologs by GC/MS-SIM (LowVol) - Mansfield Lab Associated sample(s): 01-03 Batch: WG513803-2								
Cl7-BZ#182/#187	93		-		40-140	-		30
Cl7-BZ#183	100		-		40-140	-		30
Cl6-BZ#167/#128	89		-		40-140	-		30
Cl5-BZ#126	61		-		40-140	-		30
Cl7-BZ#174	100		-		40-140	-		30
Cl8-BZ#202	110		-		40-140	-		30
Cl7-BZ#177	97		-		40-140	-		30
Cl6-BZ#156	81		-		40-140	-		30
Cl6-BZ#157	83		-		40-140	-		30
Cl7-BZ#180	98		-		40-140	-		30
Cl7-BZ#170/#190	73		-		40-140	-		30
Cl8-BZ#201	93		-		40-140	-		30
Cl6-BZ#169	75		-		40-140	-		30
Cl9-BZ#208	101		-		40-140	-		30
Cl7-BZ#189	88		-		40-140	-		30
Cl8-BZ#195	94		-		40-140	-		30
Cl8-BZ#194	91		-		40-140	-		30
Cl8-BZ#205	95		-		40-140	-		30
Cl9-BZ#206	95		-		40-140	-		30
Cl10-BZ#209	94		-		40-140	-		30

**Lab Control Sample Analysis****Batch Quality Control****Project Name:** PEABODY TERRACE**Lab Number:** L1200626**Project Number:** 210980**Report Date:** 01/18/12

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
-----------	------------------	------	-------------------	------	---------------------	-----	------	------------

PCB Homologs by GC/MS-SIM (LowVol) - Mansfield Lab Associated sample(s): 01-03 Batch: WG513803-2

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
Cl3-BZ#19-C13	103				50-125
Cl8-BZ#202-C13	110				50-125

**Project Name:** PEABODY TERRACE**Lab Number:** L1200626**Project Number:** 210980**Report Date:** 01/18/12**Sample Receipt and Container Information**

Were project specific reporting limits specified?

YES

**Reagent H2O Preserved Vials Frozen on:** NA**Cooler Information Custody Seal****Cooler**

A

Absent

**Container Information**

<b>Container ID</b>	<b>Container Type</b>	<b>Cooler</b>	<b>pH</b>	<b>Temp deg C</b>	<b>Pres</b>	<b>Seal</b>	<b>Analysis(*)</b>
L1200626-01A	PUF Air Cartridge - High or Low	A	N/A	8.5	Y	Absent	PUF-LO(),A2-PCBHOMS-8270SIML(7)
L1200626-02A	PUF Air Cartridge - High or Low	A	N/A	8.5	Y	Absent	PUF-LO(),A2-PCBHOMS-8270SIML(7)
L1200626-03A	PUF Air Cartridge - High or Low	A	N/A	8.5	Y	Absent	PUF-LO(),A2-PCBHOMS-8270SIML(7)

\*Values in parentheses indicate holding time in days

**Project Name:** PEABODY TERRACE  
**Project Number:** 210980

**Lab Number:** L1200626  
**Report Date:** 01/18/12

## GLOSSARY

### Acronyms

EPA	- Environmental Protection Agency.
LCS	- Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LCSD	- Laboratory Control Sample Duplicate: Refer to LCS.
LFB	- Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
MDL	- Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
MS	- Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available.
MSD	- Matrix Spike Sample Duplicate: Refer to MS.
NA	- Not Applicable.
NC	- Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.
NI	- Not Ignitable.
RL	- Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
RPD	- Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.
SRM	- Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.

### Footnotes

- 1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

### Terms

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

### Data Qualifiers

- |           |   |
|-----------|---|
| <b>A</b>  | - Spectra identified as "Aldol Condensation Product".   |
| <b>B</b>  | - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than five times (5x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. |
| <b>C</b>  | - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.  |
| <b>D</b>  | - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.   |
| <b>E</b>  | - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.  |
| <b>G</b>  | - The concentration may be biased high due to matrix interferences (i.e., co-elution) with non-target compound(s). The result should be considered estimated.   |
| <b>H</b>  | - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.  |
| <b>I</b>  | - The RPD between the results for the two columns exceeds the method-specified criteria; however, the lower value has been reported due to obvious interference.  |
| <b>M</b>  | - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.  |
| <b>NJ</b> | - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.  |

**Report Format:** Data Usability Report



**Project Name:** PEABODY TERRACE  
**Project Number:** 210980

**Lab Number:** L1200626  
**Report Date:** 01/18/12

**Data Qualifiers**

- P** - The RPD between the results for the two columns exceeds the method-specified criteria.
- Q** - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)
- R** - Analytical results are from sample re-analysis.
- RE** - Analytical results are from sample re-extraction.
- J** - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).
- ND** - Not detected at the reporting limit (RL) for the sample.

Report Format: Data Usability Report

---





**Project Name:** PEABODY TERRACE  
**Project Number:** 210980

**Lab Number:** L1200626  
**Report Date:** 01/18/12

## REFERENCES

- 105 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - IIIA, 1997 in conjunction with Determination of Pesticides and PCBs in Water and Oil/Sediment by GC/MS: Method 680. EPA 01A0005295, November 1985.

## LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.



## Certificate/Approval Program Summary

Last revised January 3, 2012 – Mansfield Facility

The following list includes only those analytes/methods for which certification/approval is currently held. For a complete listing of analytes for the referenced methods, please contact your Alpha Customer Service Representative.

### **Connecticut Department of Public Health Certificate/Lab ID: PH-0141.**

*Wastewater/Non-Potable Water* (Inorganic Parameters: pH, Turbidity, Conductivity, Alkalinity, Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Strontium, Thallium, Tin, Vanadium, Zinc, Total Residue (Solids), Total Suspended Solids (non-filterable), Total Cyanide. Organic Parameters: PCBs, Organochlorine Pesticides, Technical Chlordane, Toxaphene, Acid Extractables, Benzidines, Phthalate Esters, Nitrosamines, Nitroaromatics & Isophorone, PAHs, Haloethers, Chlorinated Hydrocarbons, Volatile Organics.)

*Solid Waste/Soil* (Inorganic Parameters: pH, Aluminum, Antimony, Arsenic, Barium, Beryllium, Cadmium, Calcium, Chromium, Hexavalent Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Thallium, Vanadium, Zinc, Total Organic Carbon, Total Cyanide, Corrosivity, TCLP 1311. Organic Parameters: PCBs, Organochlorine Pesticides, Technical Chlordane, Toxaphene, Volatile Organics, Acid Extractables, Benzidines, Phthalates, Nitrosamines, Nitroaromatics & Cyclic Ketones, PAHs, Haloethers, Chlorinated Hydrocarbons.)

### **Florida Department of Health Certificate/Lab ID: E87814. *NELAP Accredited.***

*Non-Potable Water* (Inorganic Parameters: SM2320B, SM2540D, SM2540G.)

*Solid & Chemical Materials* (Inorganic Parameters: 6020, 7470, 7471, 9045. Organic Parameters: EPA 8260, 8270, 8082, 8081.)

*Air & Emissions* (EPA TO-15.)

### **Louisiana Department of Environmental Quality Certificate/Lab ID: 03090. *NELAP Accredited.***

*Non-Potable Water* (Inorganic Parameters: EPA 180.1, 245.7, 1631E, 3020, 6020A, 7470A, 9040, 9050A, SM2320B, 2540D, 2540G, 4500H-B, Organic Parameters: EPA 3510C, 3580A, 3630C, 3640A, 3660B, 3665A, 5030B, 8015D, 3570, 8081B, 8082A, 8260B, 8270C, 8270D.)

*Solid & Chemical Materials* (Inorganic Parameters: EPA 1311, 3050, 3051A, 3060A, 6020A, 7196A, 7470A, 7471B, 7474, 9040B, 9045C, 9060. Organic Parameters: EPA 3540C, 3570B, 3580A, 3630C, 3640A, 3660, 3665A, 5035, 8015D, 8081B, 8082A, 8260B, 8270C, 8270D.)

*Biological Tissue* (Inorganic Parameters: EPA 6020A. Organic Parameters: EPA 3570, 3510C, 3610B, 3630C, 3640A, 8270C, 8270D.)

*Air & Emissions* (EPA TO-15.)

### **New Hampshire Department of Environmental Services Certificate/Lab ID: 2206. *NELAP Accredited.***

*Non-Potable Water* (Inorganic Parameters: EPA 245.7, 1631E, 6020A, 7470A, 9040B, 9050A, SM2540D, 2540G, 4500H+B, 2320B. Organic Parameters: EPA 8081B, 8082A, 8260B, 8270C, 8015D.)

*Solid & Chemical Materials* (Inorganic Parameters: SW-846 1311, 1312, 3050B, 3051A, 3060A, 6020A, 7471A, 9040B, 9045C, 7196A. Organic Parameters: SW-846 3540C, 3580A, 3630C, 3640A, 3660B, 3665A, 5035, 8260B, 8270C, 8015D, 8082A, 8081B.)

### **New Jersey Department of Environmental Protection Certificate/Lab ID: MA015. *NELAP Accredited.***

*Non-Potable Water* (Inorganic Parameters: SW-846 1312, 3010, 3020A, SM2320B, SM2540D, 2540G, EPA 180.1, 1631E, SW-846 7470A, 9040B, 6020, 9050A. Organic Parameters: SW-846 3510C, 3580A, 5030B, 5035L, 5035H, 3630C, 3640A, 3660B, 3665A, 8015B 8081A, 8082, 8260B, 8270C)

*Solid & Chemical Materials* (Inorganic Parameters: SW-846 6020, 1311, 1312, 3050B, 3051, 3060A, 7196A, 7470A, 7471A, 7474, 9040B, 9045C, 9060. Organic Parameters: SW-846 3540C, 3570, 3580A, 5030B, 5035L, 5035H, 3630C, 3640A, 3660B, 3665A, 8081A, 8082, 8260B, 8270C, 8015B.)

*Atmospheric Organic Parameters* (EPA TO-15)

*Biological Tissue* (Inorganic Parameters: SW-846 6020 Organic Parameters: SW-846 8270C, 3510C, 3570, 3610C, 3630C, 3640A)

**New York Department of Health** Certificate/Lab ID: 11627. **NELAP Accredited.**

*Non-Potable Water* (Inorganic Parameters: SM2320B, SM2540D, EPA 200.8, 6020, 1631E, 245.1, 245.7, 7470A, 9014, 9040B, 9050, 120.1, 4500CN-E, 4500H-B, EPA 376.2, 180.1, 3020A. Organic Parameters: EPA 8260B, 8270C, 8081A, 8082, 3510C, 5030B.)

*Solid & Hazardous Waste* (Inorganic Parameters: EPA 6020, 7196A, 3060A, 7471A, 7474, 9014, 9040B, 9045C, 9010B. Organic Parameters: EPA 8260B, 8270C, 8081A, DRO 8015B, 8082, 1311, 1312, 3050B, 3580, 3570, 3051, 5035, 5030B.)

*Air & Emissions* (EPA TO-15.)

**Pennsylvania** Certificate/Lab ID: 68-02089 **NELAP Accredited**

*Solid & Hazardous Waste* (Inorganic Parameters: EPA 6020A, 7471B, 7474. Organic Parameters: EPA 3050B, 3540C, 3630C, 8270C, 8081B, 8082A.)

**Rhode Island Department of Health** Certificate/Lab ID: LA000299. **NELAP Accredited via LA-DEQ.**

Refer to LA-DEQ Certificate for Non-Potable Water.

**Texas Commission of Environmental Quality** Certificate/Lab ID: T104704419-08-TX. **NELAP Accredited.**

*Solid & Chemical Materials* (Inorganic Parameters: EPA 6020, 7470, 7471, 1311, 7196, 9040, 9045, 9060. Organic Parameters: EPA 8015, 8270, 8260, 8081, 8082.)

*Air* (Organic Parameters: EPA TO-15)

**Washington State Department of Ecology** Certificate/Lab ID: C954. *Non-Potable Water* (Inorganic Parameters: SM2540D, 180.1, 1631E.)

*Solid & Chemical Materials* (Inorganic Parameters: EPA 6020, 7470, 7471, 7474, 9045C, 9050A, 9060. Organic Parameters: EPA 8081, 8082, 8015 Mod, 8270.)

**Virginia Division of Consolidated Laboratory Services** Certificate/Lab ID: 460194. **NELAP Accredited.**

*Non-Potable Water* (Inorganic Parameters: EPA 3020A, 6020A, 245.7, 9040B, SM4500H-B. Organic Parameters: EPA 3510C, 3640A, 3660B, 3665A, 8270C, 8270D, 8082A, 8081B.)

*Solid & Chemical Materials* (Inorganic Parameters: EPA 6020A, 7470A, 7471B, 9040B, 9045C, 3050B, 3051. Organic Parameters: EPA 3540C, 3580A, 3630C, 3640A, 3660B, 3665A, 3570, 8270C, 8270D, 8081B, 8082A, 8015D.)

**U.S. Army Corps of Engineers**

**Department of Defense** Certificate/Lab ID: L2217.01.

*Non-Potable Water* (Inorganic Parameters: EPA 6020A, SM4500H-B. Organic Parameters: 3020A, 3510C, 5030B, 8260B, 8270C, 8270C-ALK-PAH, 8082, 8081A, 8015D-SHC, 8015D.)

*Solid & Hazardous Waste* (Inorganic Parameters: EPA 1311, 1312, 3050B, 6020A, 7471A, 9045C, 9060, SM 2540G, ASTM D422-63. Organic Parameters: EPA 3580A, 3570, 3540C, 5035A, 8260B, 8270C, 8270-ALK-PAH, 8082, 8081A, 8015D-SHC, 8015D.)

*Air & Emissions* (EPA TO-15.)

**Analytes Not Accredited by NELAP**

Certification is not available by NELAP for the following analytes: **8270C**: Biphenyl. **TO-15**: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 2-Methylnaphthalene, 1-Methylnaphthalene.



## AIR ANALYSIS

PAGE 1 OF 1

## CHAIN OF CUSTODY

320 Forbes Blvd, Mansfield, MA 02048  
TEL: 508-822-9300 FAX: 508-822-3288

## Client Information

Client:	Woodard E. Curran
Address:	41 Hutchins Drive Portland maine
Phone:	207-774-2112

Fax:

Email: awallace@woodwardcurran.com  
j.horne@"  
j.russell@"

☐ These samples have been previously analyzed by Alpha

☐ These samples have been previously analyzed by Alpha

## Project Information

Project Name:	Peabody Terrace
Project Location:	Cambridge MA
Project #:	210980
Project Manager:	Amy Wallace
ALPHA Quote #:	

## Turn-Around Time

☒ Standard ☐ RUSH (only confirmed if pre-approved!)

Date Due: \_\_\_\_\_ Time: \_\_\_\_\_

**Date Rec'd in Lab:**

## Report Information - Data Deliverables

☐ FAX  
☒ ADEx

Criteria Checker: \_\_\_\_\_  
(Default based on Regulatory Criteria Indicated)

Other Formats: \_\_\_\_\_

☒ EMAIL (standard pdf report)  
☐ Additional Deliverables:

Report to: (if different than Project Manager)  
 Awallace @ woodendcurran.com  
 J. Hume @ "  
 J. Russell @ "

ALPHA Job #: 4200626

### Billing Information

<input checked="" type="checkbox"/> Same as Client info	PO #:
---	-------

## Regulatory Requirements/Report Limits

State/Fed	Program	Criteria
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## ANALYSIS

Other Project Specific Requirements/Comments:

Specific Requirements/Comments:  
 PUF Cartridge sample collected at 2.5 L/min for 2 hrs (120min)  
 Analyze by TD-10A for PCB Homologs

**All Columns Below Must Be Filled Out**

[illegible]

**\*SAMPLE MATRIX CODES**

AA = Ambient Air (Indoor/Outdoor)  
SV = Soil Vapor/Landfill Gas/SVE  
Other = Please Specify

Container Type

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Terms and Conditions. See reverse side.

Relinquished By:

Date/Time

Received By:

Date/Time:

## QC NON-CONFORMANCE SUMMARY

**Sample Receipt:**

No exceptions.

**PCBs by EPA Method 8082:**

No results were reported below the quantitation limit.

Samples 72067-1 thru 72067-3 required dilution due to PCB concentrations that exceeded the calibration of the instrument.

If you have any questions on these results, please do not hesitate to contact me.

Sincerely,  
ANALYTICS Environmental Laboratory, LLC



Stephen L. Knollmeyer  
Laboratory Director

Ms. Amy Wallace  
Woodard & Curran  
41 Hutchins Drive  
Portland ME 04102

**Report Number: 72067**

**Revision: Rev. 0**

**Re: Peabody Terrace (Project No: 210980)**

Enclosed are the results of the analyses on your sample(s). Samples were received on 27 January 2012 and analyzed for the tests listed. Samples were received in acceptable condition, with the exceptions noted below or on the chain of custody. These results pertain to samples as received by the laboratory and for the analytical tests requested on the chain of custody. The results reported herein conform to the most current NELAC standards, where applicable, unless otherwise narrated in the body of the report. Please see individual reports for specific methodologies and references.

<u>Lab Number</u>	<u>Sample Date</u>	<u>Station Location</u>	<u>Analysis</u>	<u>Comments</u>
72067-1	01/27/12	PTZ-CBC-21402-2335	EPA 8082 (PCBs only)	
72067-2	01/27/12	PTZ-CBCD-21402-2336	EPA 8082 (PCBs only)	
72067-3	01/27/12	PTZ-CBK-21402-2337	EPA 8082 (PCBs only)	
72067-4	01/27/12	PTZ-CBCQ-21402-2338	Electronic Data Deliverable	
	01/27/12	PTZ-CBCQ-21402-2338	EPA 8082 (PCBs only)	

**Sample Receipt Exceptions:** None

Analytics Environmental Laboratory is certified by the states of New Hampshire, Maine, Massachusetts, Connecticut, Rhode Island, Virginia, Maryland, and North Carolina, and is accredited by the Department of Defense (DOD) ELAP program. A list of actual certified parameters is available upon request.

If you have any questions on these results, please do not hesitate to contact us.

Authorized signature   
Stephen L. Knollmeyer Lab. Director

Date 2/3/2012

**This report shall not be reproduced, except in full, without the written consent of Analytics Environmental Laboratory, LLC.**

## MassDEP Analytical Protocol Certification Form

Laboratory Name: Analytics Environmental Laboratory, LLC

Project #: 72067

Project Location: Peabody Terrace

RTN:

This Form provides certifications for the following data set. Laboratory Sample ID Number(s):

72067-1, 72067-2, 72067-3, 72067-4

Matrices: ☐ Groundwater/Surface Water ☐ Soil/Sediment ☐ Drinking Water ☐ Air ☒ Other

**CAM Protocol** (check all that apply below):

8260 VOC CAM II A <input type="checkbox"/>	7470/7471 Hg CAM III B <input type="checkbox"/>	MassDEP VPH CAM IV A <input type="checkbox"/>	8081 Pesticides CAM V B <input type="checkbox"/>	7196 Hex Cr CAM VI B <input type="checkbox"/>	MassDEP APH CAM IX A <input type="checkbox"/>
8270 SVOC CAM II B <input type="checkbox"/>	7010 Metals CAM III C <input type="checkbox"/>	MassDEP EPH CAM IV B <input type="checkbox"/>	8151 Herbicides CAM V C <input type="checkbox"/>	8330 Explosives CAM VIII A <input type="checkbox"/>	TO-15 VOC CAM IX B <input type="checkbox"/>
6010 Metals CAM III A <input type="checkbox"/>	6020 Metals CAM III D <input type="checkbox"/>	8082 PCB CAM V A <input checked="" type="checkbox"/>	9014 Total Cyanide/PAC CAM VI A <input type="checkbox"/>	6860 Perchlorate CAM VIII B <input type="checkbox"/>	

**Affirmative Responses to Questions A through F are required for "Presumptive Certainty" status**

<b>A</b>	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
<b>B</b>	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
<b>C</b>	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
<b>D</b>	Does the laboratory report comply with all reporting requirements specified in CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data"?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
<b>E</b>	a. VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? (Refer to individual method(s) for a list of significant modifications). b. APH and TO-15 Methods only: Was the complete analyte list reported for each method?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Yes <input type="checkbox"/> No
<b>F</b>	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No

**Responses to Questions G, H and I below are required for "Presumptive Certainty" status**


<b>G</b>	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <sup>1</sup>
----------	---	--

**Data User Note: Data that achieve "Presumptive Certainty" status may not necessarily meet the data usability and representativeness requirements described in 310 CMR 40.1056 (2)(k) and WSC-07-350.**

<b>H</b>	Were ALL QC performance standards specified in the CAM protocol(s) achieved?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <sup>1</sup>
<b>I</b>	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <sup>1</sup>

<sup>1</sup> All negative responses must be addressed in an attached laboratory narrative.

*I, the undersigned, attest under the pains and penalties of perjury that, based upon my personal inquiry of those responsible for obtaining the information, the material contained in this analytical report is, to the best of my knowledge and belief, accurate and complete.*

Signature: 

Position: Laboratory Director

Printed Name: Stephen L. Knollmeyer

Date: February 03, 2012



### Surrogate Compound Limits

	Matrix: Units:	Aqueous % Recovery	Solid % Recovery	Method
<b>Volatile Organic Compounds - Drinking Water</b>				
1,4-Difluorobenzene		70-130		EPA 524.2
Bromofluorobenzene		70-130		
1,2-Dichlorobenzene-d4		70-130		
<b>Volatile Organic Compounds</b>				
1,2-Dichloroethane-d4		70-120	70-120	EPA 624/8260B
Toluene-d8		85-120	85-120	
Bromofluorobenzene		75-120	75-120	
<b>Semi-Volatile Organic Compounds</b>				
2-Fluorophenol		20-110	35-105	EPA 625/8270C
d5-Phenol		15-110	40-100	
d5-nitrobenzene		40-110	35-100	
2-Fluorobiphenyl		50-110	45-105	
2,4,6-Tribromophenol		40-110	40-125	
d14-p-terphenyl		50-130	30-125	
<b>PAH's by SIM</b>				
d5-nitrobenzene		21-110	35-110	EPA 8270C
2-Fluorobiphenyl		36-121	45-105	
d14-p-terphenyl		33-141	30-125	
<b>Pesticides and PCBs</b>				
2,4,5,6-Tetrachloro-m-xylene (TCX)		46-122	40-130	EPA 608/8082
Decachlorobiphenyl (DCB)		40-135	40-130	
<b>Herbicides</b>				
Dichloroacetic acid (DCAA)		30-150	30-150	
<b>Gasoline Range Organics/TPH Gasoline</b>				
Trifluorotoluene TFT (FID)		60-140	60-140	MEDEP 4217/EPA 8015
Bromofluorobenzene (BFB) (FID)		60-140	60-140	
Trifluorotoluene TFT (PID)		60-140	60-140	
Bromofluorobenzene (BFB) (PID)		60-140	60-140	
<b>Diesel Range Organics/TPH Diesel</b>				
m-terphenyl		60-140	60-140	MEDEP 4125/EPA 8015/CT ETPH
<b>Volatile Petroleum Hydrocarbons</b>				
2,5-Dibromotoluene (PID)		70-130	70-130	MADEP VPH May 2004 Rev1.1
2,5-Dibromotoluene (FID)		70-130	70-130	
<b>Extracatable Petroleum Hydrocarbons</b>				
1-chloro-octadecane (aliphatic)		40-140	40-140	MADEP EPH May 2004 Rev1.1
o-Terphenyl (aromatic)		40-140	40-140	
2-Fluorobiphenyl (Fractionation)		40-140	40-140	
2-Bromonaphthalene (fractionation)		40-140	40-140	

## PCB DATA SUMMARIES

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February 2, 2012

**SAMPLE DATA**

**CLIENT SAMPLE ID**  
**Project Name:** Peabody Terrace  
**Project Number:** 210980  
**Field Sample ID:** Lab QC

**Lab Sample ID:** B013012PSOX  
**Matrix:** Soil  
**Percent Solid:** 100  
**Dilution Factor:** 1.0  
**Collection Date:**  
**Lab Receipt Date:**  
**Extraction Date:** 01/31/12  
**Analysis Date:** 01/31/12

**PCB ANALYTICAL RESULTS**

COMPOUND	Quantitation Limit $\mu\text{g/kg}$	Results $\mu\text{g/kg}$
PCB-1016	33	U
PCB-1221	33	U
PCB-1232	33	U
PCB-1242	33	U
PCB-1248	33	U
PCB-1254	33	U
PCB-1260	33	U
PCB-1262	33	U
PCB-1268	33	U
<b><u>Surrogate Standard Recovery</u></b>		
2,4,5,6-Tetrachloro-m-xylene	50	%
Decachlorobiphenyl	66	%
U=Undetected J=Estimated E=Exceeds Calibration Range B=Detected in Blank		

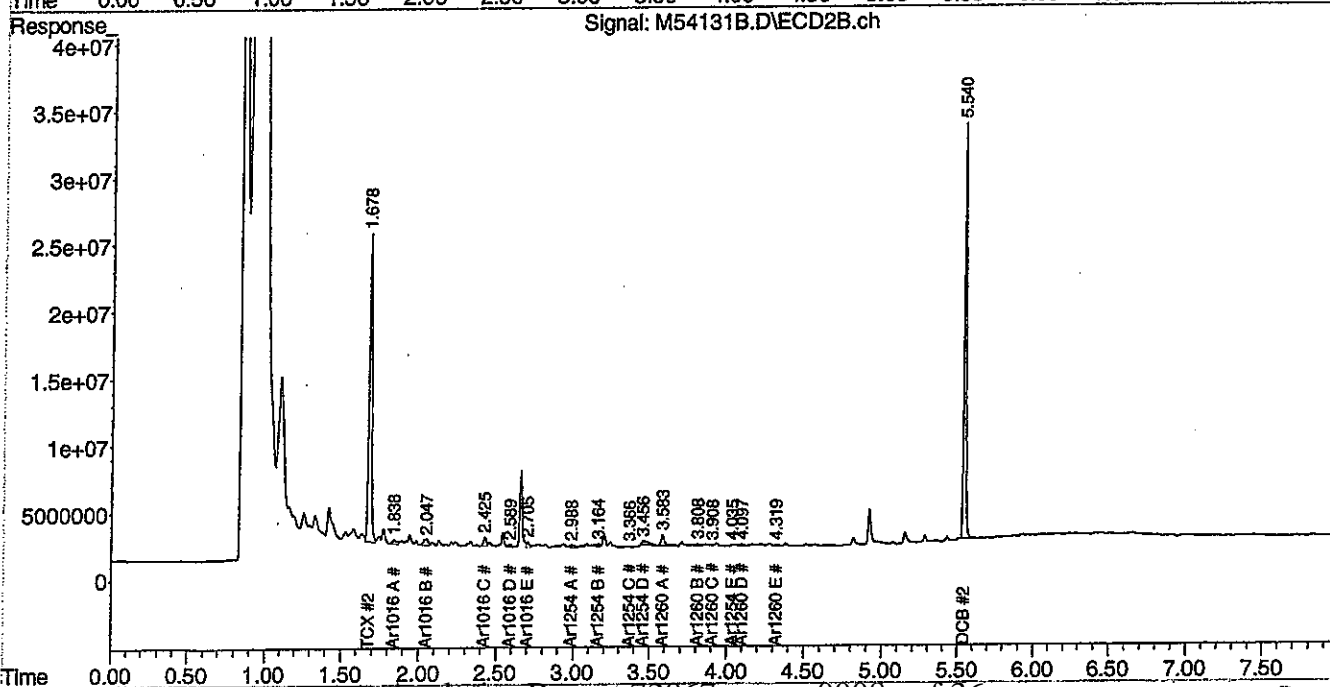
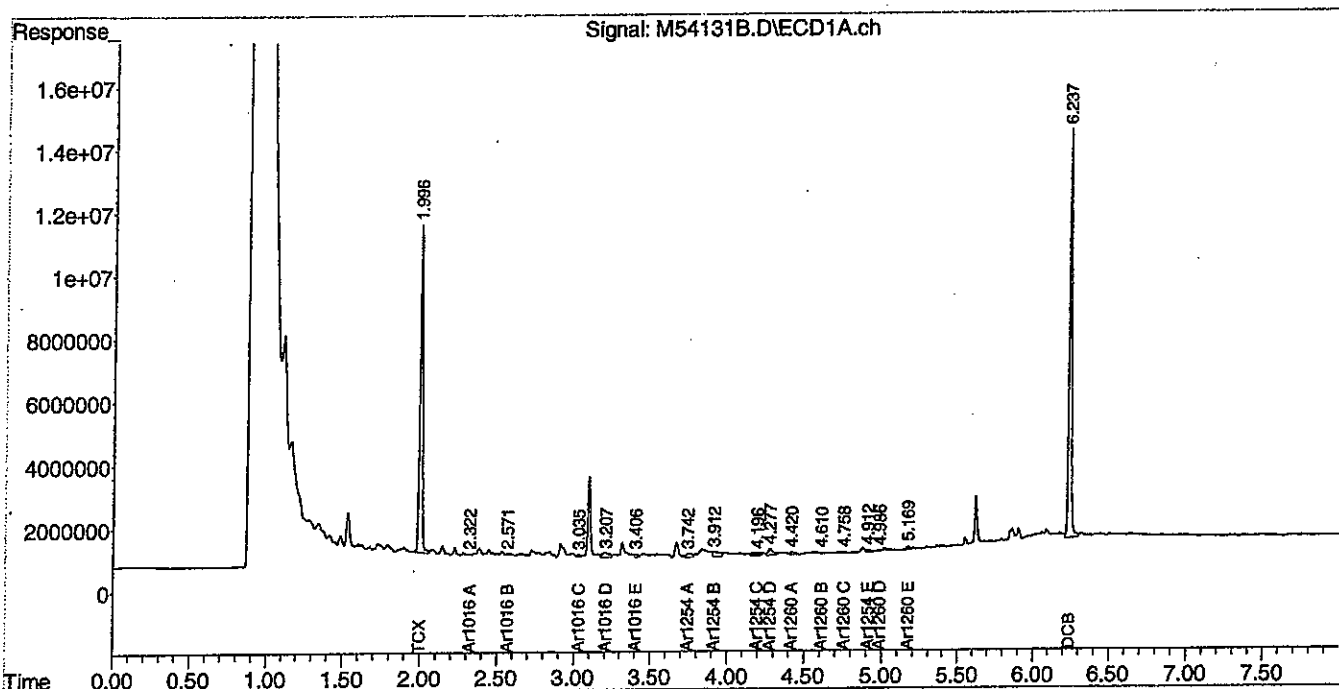
**METHODOLOGY:** Sample analysis conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 8082.  
Sample preparation conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 3540C.

**COMMENTS:** Results are expressed on a dry weight basis.

Data Path : C:\msdchem\1\DATA\013112-M\  
Data File : M54131B.D  
Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch  
Acq On : 31 Jan 2012 7:22 pm  
Operator : JK  
Sample : B013012PSOX  
Misc : SOIL  
ALS Vial : 19 Sample Multiplier: 1

Integration File signal 1: events.e  
Integration File signal 2: events2.e  
Quant Time: Jan 31 20:54:08 2012  
Quant Method: C:\msdchem\1\METHODS\PCB012712.M  
Quant Title : SW-846 METHOD 8082 Aroclor 1016/1260/1254  
QLast Update : Tue Jan 31 15:55:34 2012  
Response via : Initial Calibration  
Integrator: ChemStation

Volume Inj. : 2 uL  
Signal #1 Phase : STX-CLPPesticides Signal #2 Phase: STX-CLPPesticides  
Signal #1 Info : 30 m x 0.25mm x 0.25 Signal #2 Info : 30 m x 0.25mm x 0.25 um



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**SAMPLE DATA**

**CLIENT SAMPLE ID**  
**Project Name:** Peabody Terrace  
**Project Number:** 210980  
**Field Sample ID:** Lab QC

**Lab Sample ID:** B013012PSOX2 RR  
**Matrix:** Soil  
**Percent Solid:** 100  
**Dilution Factor:** 1.0  
**Collection Date:**  
**Lab Receipt Date:**  
**Extraction Date:** 01/30/12  
**Analysis Date:** 02/01/12

**PCB ANALYTICAL RESULTS**

COMPOUND	Quantitation Limit µg/kg	Results µg/kg
PCB-1016	33	U
PCB-1221	33	U
PCB-1232	33	U
PCB-1242	33	U
PCB-1248	33	U
PCB-1254	33	U
PCB-1260	33	U
PCB-1262	33	U
PCB-1268	33	U
<b><u>Surrogate Standard Recovery</u></b>		
2,4,5,6-Tetrachloro-m-xylene	81	%
Decachlorobiphenyl	78	%
U=Undetected J=Estimated E=Exceeds Calibration Range B=Detected in Blank		

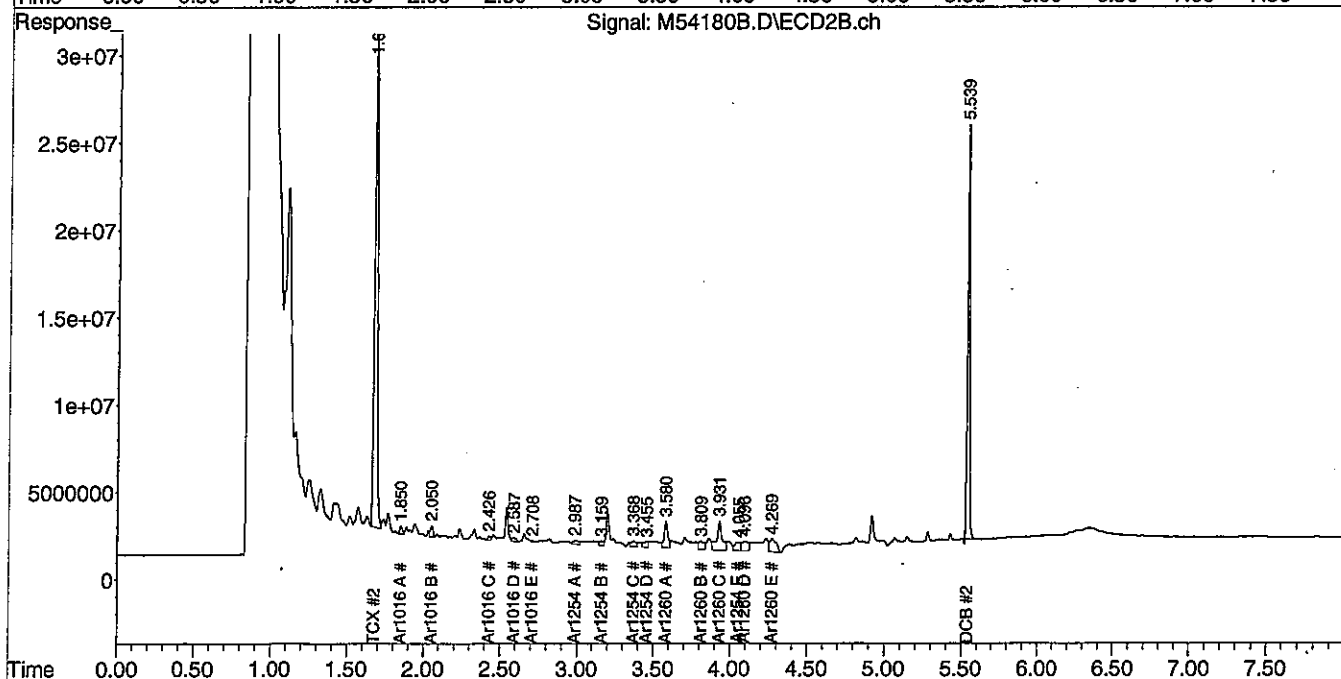
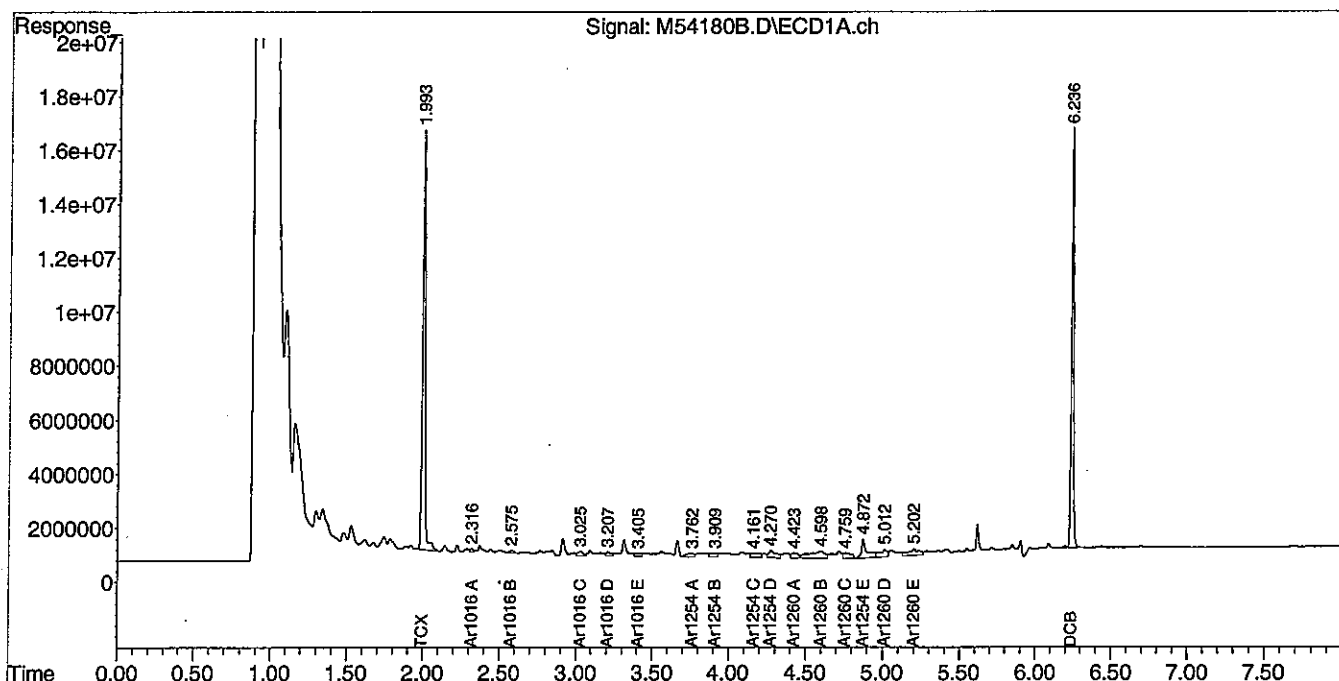
**METHODOLOGY:** Sample analysis conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 8082.  
Sample preparation conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 3540C.  
Sample cleanup was conducted according to SW-846 Method 3665A.

**COMMENTS:** Results are expressed on a dry weight basis.

Data Path : C:\msdchem\1\DATA\013112-M\  
 Data File : M54180B.D  
 Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch  
 Acq On : 1 Feb 2012 4:35 am  
 Operator : JK/AR  
 Sample : B013012PSOX2,RR2  
 Misc : SOIL  
 ALS Vial : 32 Sample Multiplier: 1

Integration File signal 1: events.e  
 Integration File signal 2: events2.e  
 Quant Time: Feb 01 22:40:23 2012  
 Quant Method : C:\msdchem\1\METHODS\PCB012712.M  
 Quant Title : SW-846 METHOD 8082 Aroclor 1016/1260/1254  
 QLast Update : Tue Jan 31 15:55:34 2012  
 Response via : Initial Calibration  
 Integrator: ChemStation

Volume Inj. : 2 uL  
 Signal #1 Phase : STX-CLPPesticides Signal #2 Phase: STX-CLPPesticides  
 Signal #1 Info : 30 m x 0.25mm x 0 Signal #2 Info : 30 m x 0.25mm x 0.25 um



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**SAMPLE DATA**

**CLIENT SAMPLE ID**  
**Project Name:** Peabody Terrace  
**Project Number:** 210980  
**Field Sample ID:** Lab QC

**Lab Sample ID:** B020112PW  
**Matrix:** Aqueous  
**Percent Solid:** N/A  
**Dilution Factor:** 1.0  
**Collection Date:**  
**Lab Receipt Date:**  
**Extraction Date:** 02/01/12  
**Analysis Date:** 02/01/12

**PCB ANALYTICAL RESULTS**

COMPOUND	Quantitation Limit $\mu\text{g/L}$	Results $\mu\text{g/L}$
PCB-1016	0.2	U
PCB-1221	0.2	U
PCB-1232	0.2	U
PCB-1242	0.2	U
PCB-1248	0.2	U
PCB-1254	0.2	U
PCB-1260	0.2	U
PCB-1262	0.2	U
PCB-1268	0.2	U
<b><u>Surrogate Standard Recovery</u></b>		
2,4,5,6-Tetrachloro-m-xylene	78	%
Decachlorobiphenyl	74	%
U=Undetected J=Estimated E=Exceeds Calibration Range B=Detected in Blank		

METHODOLOGY: Sample analysis conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 8082.

COMMENTS:

PCB EXT Report

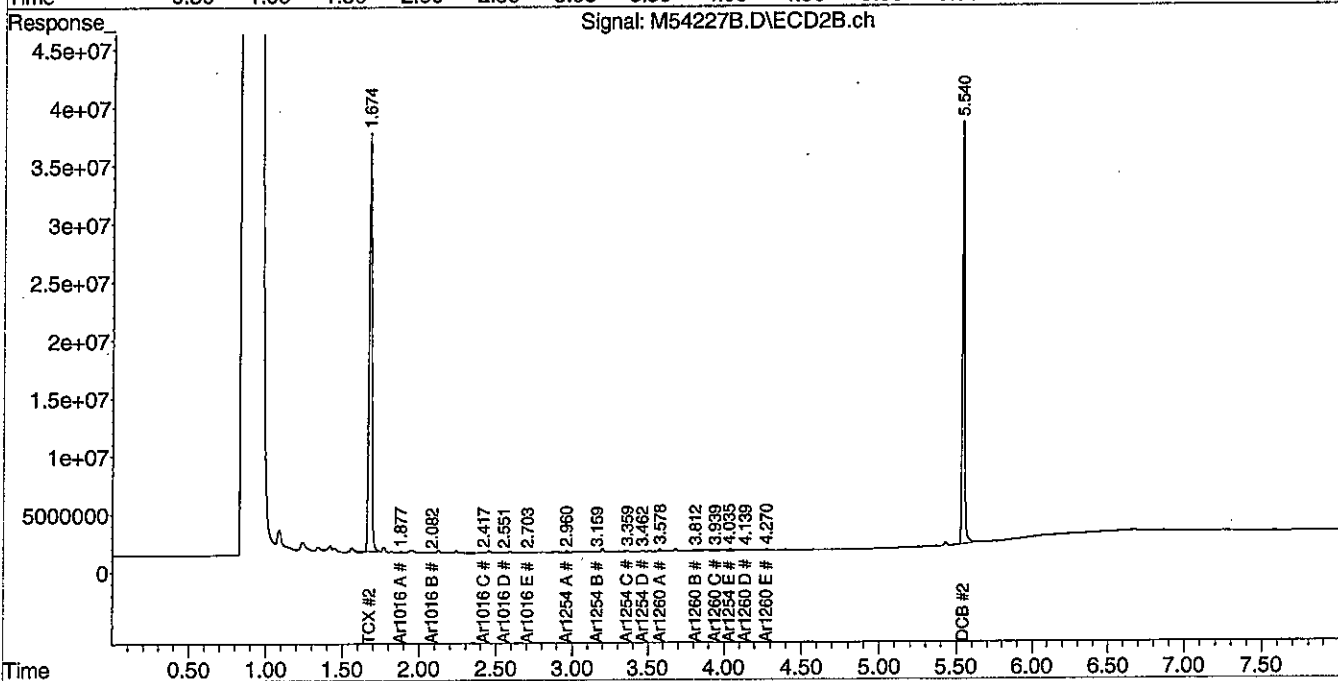
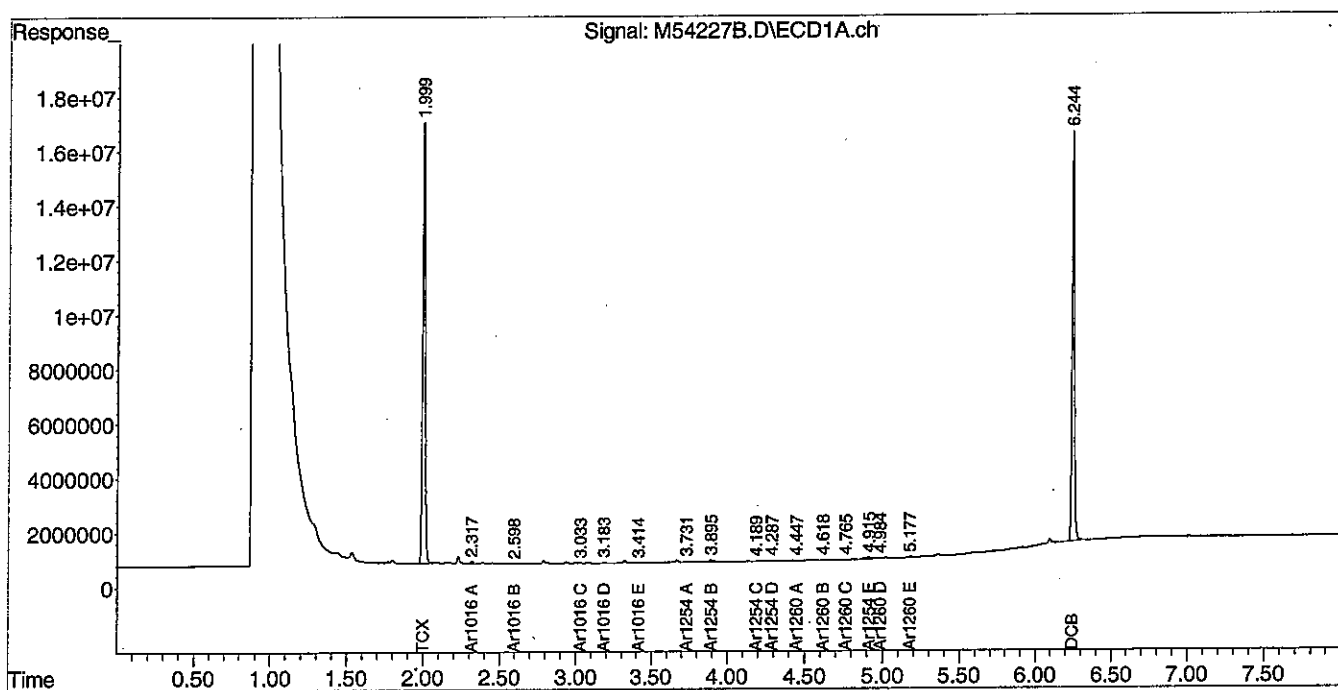
Authorized signature



Data Path : C:\msdchem\1\DATA\020112-M\  
Data File : M54227B.D  
Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch  
Acq On : 1 Feb 2012 4:20 pm  
Operator : JK  
Sample : B020112PW  
Misc :  
ALS Vial : 6 Sample Multiplier: 1

Integration File signal 1: events.e  
Integration File signal 2: events2.e  
Quant Time: Feb 02 14:23:16 2012  
Quant Method : C:\msdchem\1\METHODS\PCB012712.M  
Quant Title : SW-846 METHOD 8082 Aroclor 1016/1260/1254  
QLast Update : Tue Jan 31 15:55:34 2012  
Response via : Initial Calibration  
Integrator: ChemStation

Volume Inj. : 2 uL  
Signal #1 Phase : STX-CLPPesticides Signal #2 Phase: STX-CLPPesticides  
Signal #1 Info : 30 m x 0.25mm x 0 Signal #2 Info : 30 m x 0.25mm x 0.25 um





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**SAMPLE DATA**

**CLIENT SAMPLE ID**

**Project Name:** Peabody Terrace  
**Project Number:** 210980  
**Field Sample ID:** PTZ-CBC-21402-2335

**Lab Sample ID:** 72067-1  
**Matrix:** Solid  
**Percent Solid:** 98  
**Dilution Factor:** 61  
**Collection Date:** 01/27/12  
**Lab Receipt Date:** 01/27/12  
**Extraction Date:** 01/30/12  
**Analysis Date:** 02/01/12

**PCB ANALYTICAL RESULTS**

COMPOUND	Quantitation Limit $\mu\text{g/kg}$	Results $\mu\text{g/kg}$
PCB-1016	2010	U
PCB-1221	2010	U
PCB-1232	2010	U
PCB-1242	2010	U
PCB-1248	2010	U
PCB-1254	2010	U
PCB-1260	2010	<b>26500</b>
PCB-1262	2010	U
PCB-1268	2010	U
<b><u>Surrogate Standard Recovery</u></b>		
2,4,5,6-Tetrachloro-m-xylene	*	%
Decachlorobiphenyl	*	%
U=Undetected J=Estimated E=Exceeds Calibration Range B=Detected in Blank		

**METHODOLOGY:** Sample analysis conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 8082.  
Sample preparation conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 3540C.  
Sample cleanup was conducted according to SW-846 Method 3665A.

**COMMENTS:** Results are expressed on a dry weight basis.  
\* The surrogates were diluted out.



PCB  
COLUMN RELATIVE PERCENT DIFFERENCE

Instrument ID: M

SDG: 72067

GC Column #1: STX-CLPesticides I

Sample: 72067-1,1:50,A/C

Column ID: 0.25 mm

Data File: M54181.D

GC Column #2: STX-CLPesticides II

Dilution Factor: 61.3

Column ID: 0.25 mm

COMPOUND	Column #1	Column #2		
	SAMPLE RESULT (ug/kg)	SAMPLE RESULT (ug/kg)	RPD	#
PCB 1260	25994	26547	2.1	

# Column to be used to flag RPD values greater than QC limit of 40%

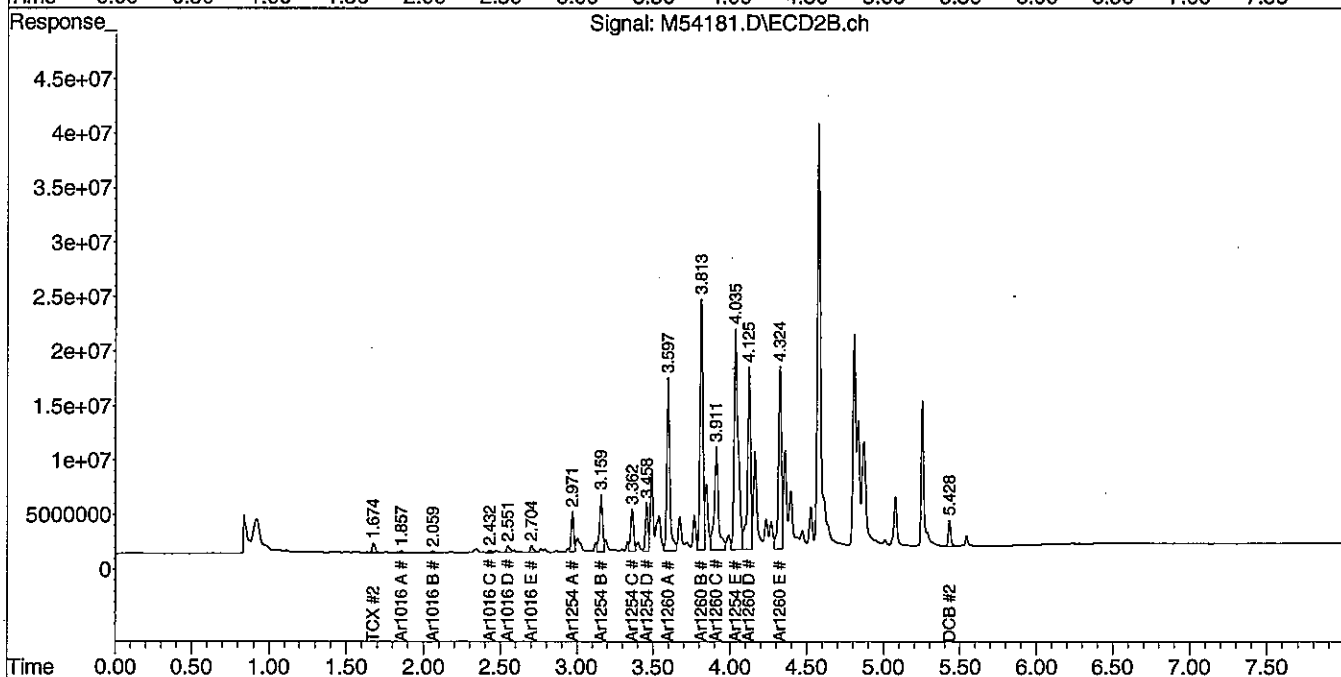
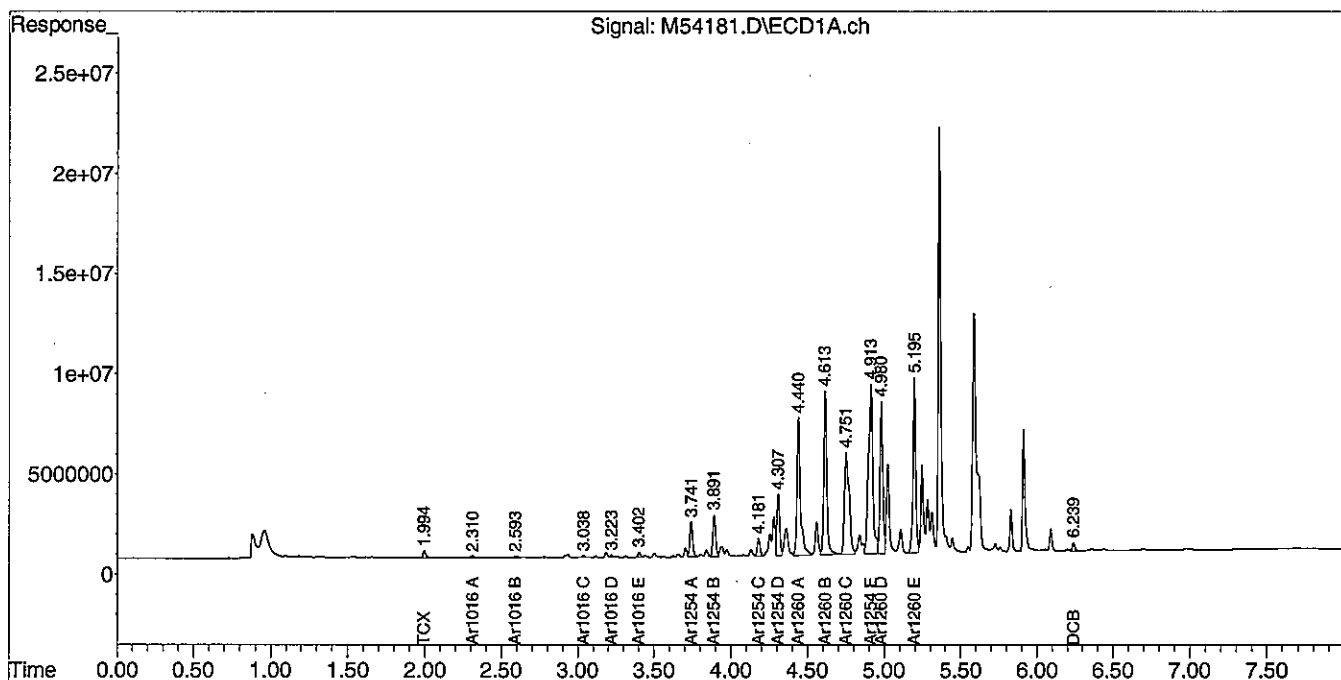
\* Values outside QC limits

Comments: \_\_\_\_\_

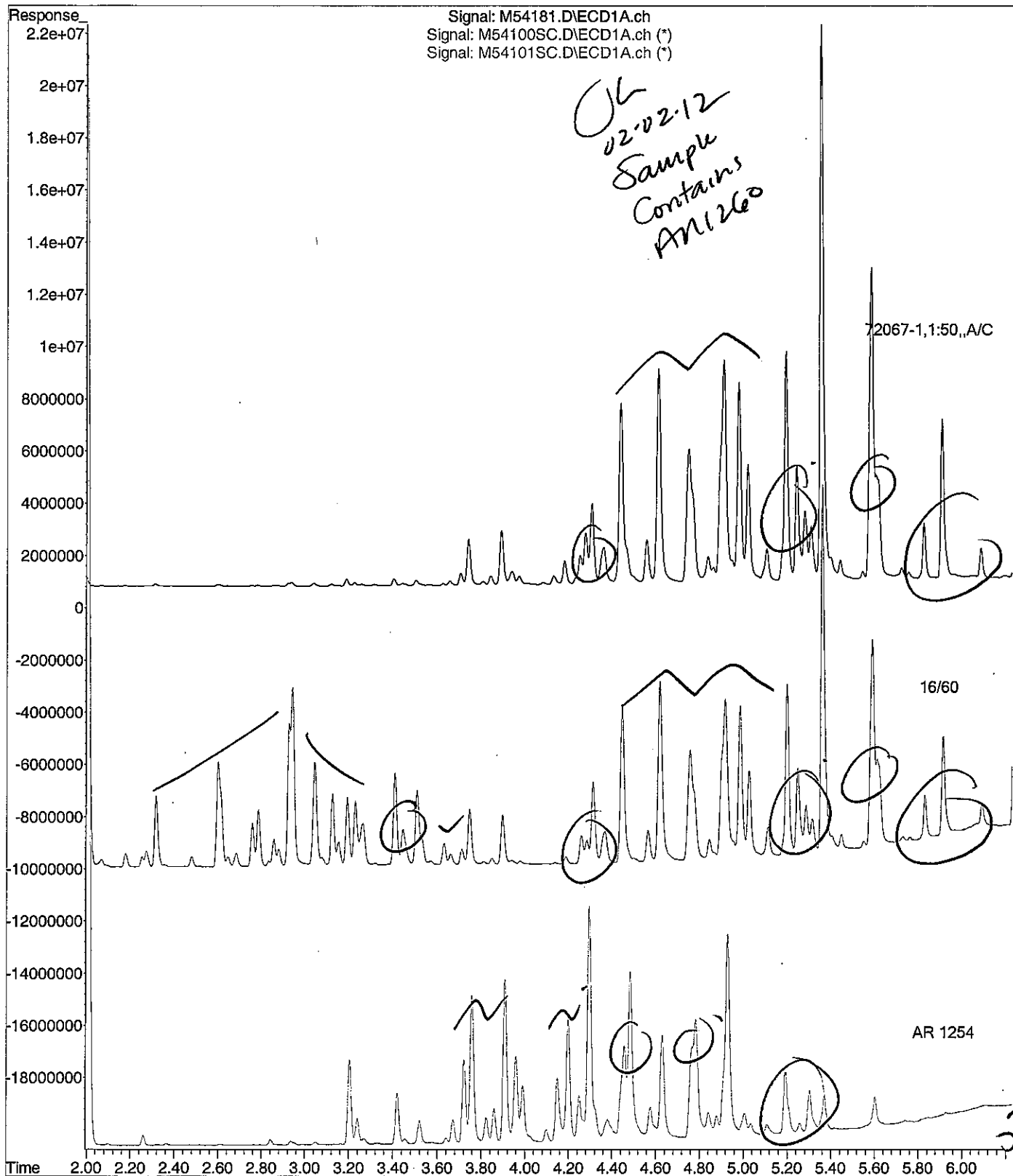
Data Path : C:\msdchem\1\DATA\013112-M\  
 Data File : M54181.D  
 Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch  
 Acq On : 1 Feb 2012 4:45 am  
 Operator : JK/AR  
 Sample : 72067-1,1:50,A/C  
 Misc : SOIL  
 ALS Vial : 55 Sample Multiplier: 1

Integration File signal 1: events.e  
 Integration File signal 2: events2.e  
 Quant Time: Feb 01 22:40:27 2012  
 Quant Method : C:\msdchem\1\METHODS\PCB012712.M  
 Quant Title : SW-846 METHOD 8082 Aroclor 1016/1260/1254  
 QLast Update : Tue Jan 31 15:55:34 2012  
 Response via : Initial Calibration  
 Integrator: ChemStation

Volume Inj. : 2 uL  
 Signal #1 Phase : STX-CLPPesticides Signal #2 Phase: STX-CLPPesticides  
 Signal #1 Info : 30 m x 0.25mm x 0 Signal #2 Info : 30 m x 0.25mm x 0.25 um



File :C:\msdchem\1\DATA\013112-M\M54181.D  
Operator : JK/AR  
Acquired : 1 Feb 2012 4:45 am using AcqMethod PCB.M  
Instrument : Instrument M  
Sample Name: 72067-1,1:50,A/C  
Misc Info : SOIL  
Vial Number: 55



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February 2, 2012

**SAMPLE DATA**

**CLIENT SAMPLE ID**

**Project Name:** Peabody Terrace  
**Project Number:** 210980  
**Field Sample ID:** PTZ-CBCD-21402-2336

**Lab Sample ID:** 72067-2  
**Matrix:** Solid  
**Percent Solid:** 98  
**Dilution Factor:** 26  
**Collection Date:** 01/27/12  
**Lab Receipt Date:** 01/27/12  
**Extraction Date:** 01/30/12  
**Analysis Date:** 02/01/12

**PCB ANALYTICAL RESULTS**

COMPOUND	Quantitation Limit $\mu\text{g/kg}$	Results $\mu\text{g/kg}$
PCB-1016	858	U
PCB-1221	858	U
PCB-1232	858	U
PCB-1242	858	U
PCB-1248	858	U
PCB-1254	858	U
PCB-1260	858	<b>23600</b>
PCB-1262	858	U
PCB-1268	858	U
<b><u>Surrogate Standard Recovery</u></b>		
2,4,5,6-Tetrachloro-m-xylene	*	%
Decachlorobiphenyl	*	%
U=Undetected J=Estimated E=Exceeds Calibration Range B=Detected in Blank		

**METHODOLOGY:** Sample analysis conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 8082.  
Sample preparation conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 3540C.  
Sample cleanup was conducted according to SW-846 Method 3665A.

**COMMENTS:** Results are expressed on a dry weight basis.  
\* The surrogates were diluted out.

PCB  
COLUMN RELATIVE PERCENT DIFFERENCE

Instrument ID: M	SDG: 72067
GC Column #1: STX-CLPesticides I	Sample: 72067-2,1:20,A/C
Column ID: 0.25 mm	Data File: M54182.D
GC Column #2: STX-CLPesticides II	Dilution Factor: 26.1
Column ID: 0.25 mm	

Column #1		Column #2		RPD	#
COMPOUND	SAMPLE RESULT (ug/kg)	SAMPLE RESULT (ug/kg)			
PCB 1260	23156	23552		1.7	

# Column to be used to flag RPD values greater than QC limit of 40%

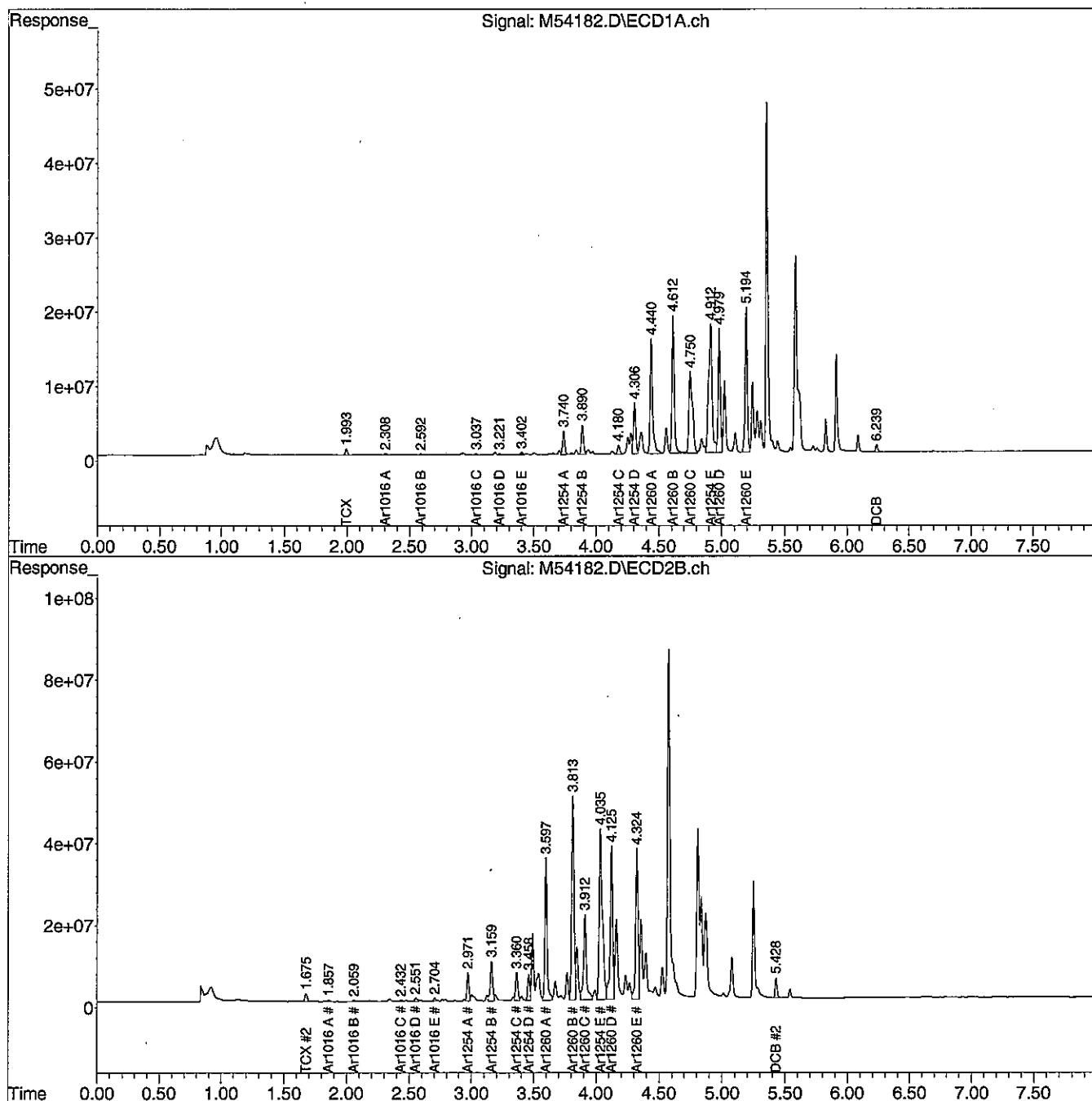
\* Values outside QC limits

Comments: \_\_\_\_\_

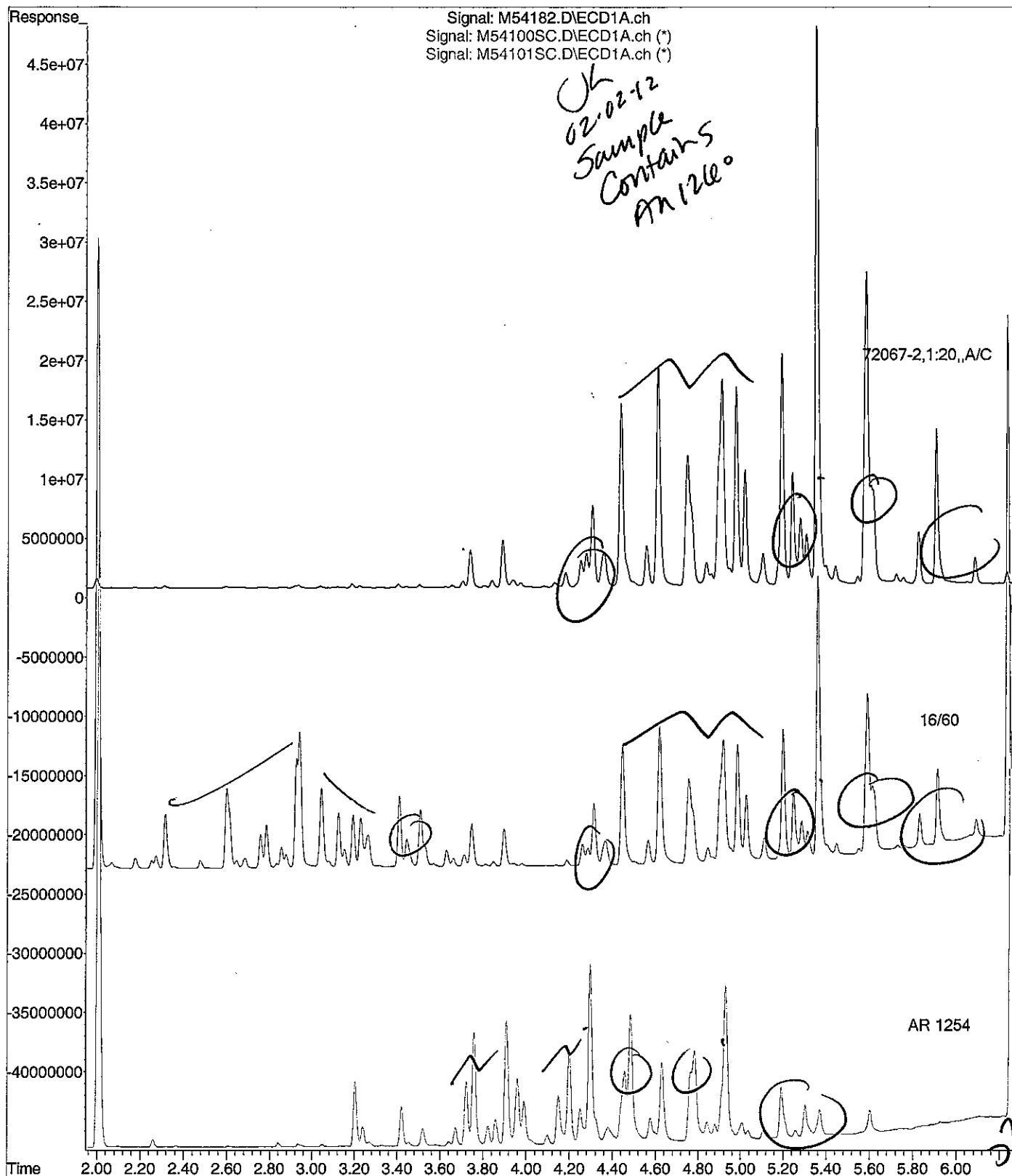
Data Path : C:\msdchem\1\DATA\013112-M\  
Data File : M54182.D  
Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch  
Acq On : 1 Feb 2012 4:55 am  
Operator : JK/AR  
Sample : 72067-2,1:20,A/C  
Misc : SOIL  
ALS Vial : 56 Sample Multiplier: 1

Integration File signal 1: events.e  
Integration File signal 2: events2.e  
Quant Time: Feb 01 22:40:31 2012  
Quant Method : C:\msdchem\1\METHODS\PCB012712.M  
Quant Title : SW-846 METHOD 8082 Aroclor 1016/1260/1254  
QLast Update : Tue Jan 31 15:55:34 2012  
Response via : Initial Calibration  
Integrator: ChemStation

Volume Inj. : 2 uL  
Signal #1 Phase : STX-CLPPesticides Signal #2 Phase: STX-CLPPesticides  
Signal #1 Info : 30 m x 0.25mm x 0 Signal #2 Info : 30 m x 0.25mm x 0.25 um



File :C:\msdchem\1\DATA\013112-M\M54182.D  
Operator : JK/AR  
Acquired : 1 Feb 2012 4:55 am using AcqMethod PCB.M  
Instrument : Instrument M  
Sample Name: 72067-2,1:20,A/C  
Misc Info : SOIL  
Vial Number: 56





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**SAMPLE DATA**

**CLIENT SAMPLE ID**

**Project Name:** Peabody Terrace  
**Project Number:** 210980  
**Field Sample ID:** PTZ-CBK-21402-2337

**Lab Sample ID:** 72067-3  
**Matrix:** Solid  
**Percent Solid:** 98  
**Dilution Factor:** 1540  
**Collection Date:** 01/27/12  
**Lab Receipt Date:** 01/27/12  
**Extraction Date:** 01/30/12  
**Analysis Date:** 02/01/12

**PCB ANALYTICAL RESULTS**

COMPOUND	Quantitation Limit $\mu\text{g/kg}$	Results $\mu\text{g/kg}$
PCB-1016	50800	U
PCB-1221	50800	U
PCB-1232	50800	U
PCB-1242	50800	U
PCB-1248	50800	U
PCB-1254	50800	967000
PCB-1260	50800	U
PCB-1262	50800	U
PCB-1268	50800	U
<b>Surrogate Standard Recovery</b>		
2,4,5,6-Tetrachloro-m-xylene	* %	
Decachlorobiphenyl	* %	
U=Undetected J=Estimated E=Exceeds Calibration Range B=Detected in Blank		

**METHODOLOGY:** Sample analysis conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 8082.  
Sample preparation conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 3540C.  
Sample cleanup was conducted according to SW-846 Method 3665A.

**COMMENTS:** Results are expressed on a dry weight basis.  
\* The surrogates were diluted out.

PCB  
COLUMN RELATIVE PERCENT DIFFERENCE

Instrument ID: M	SDG: 72067
GC Column #1: STX-CLPesticides I	Sample: 72067-3,1:200,A/C
Column ID: 0.25 mm	Data File: M54183.D
GC Column #2: STX-CLPesticides II	Dilution Factor: 1540.4
Column ID: 0.25 mm	

Column #1		Column #2	
COMPOUND	SAMPLE RESULT (ug/kg)	SAMPLE RESULT (ug/kg)	RPD #
PCB 1254	966725	815637	17.0

# Column to be used to flag RPD values greater than QC limit of 40%

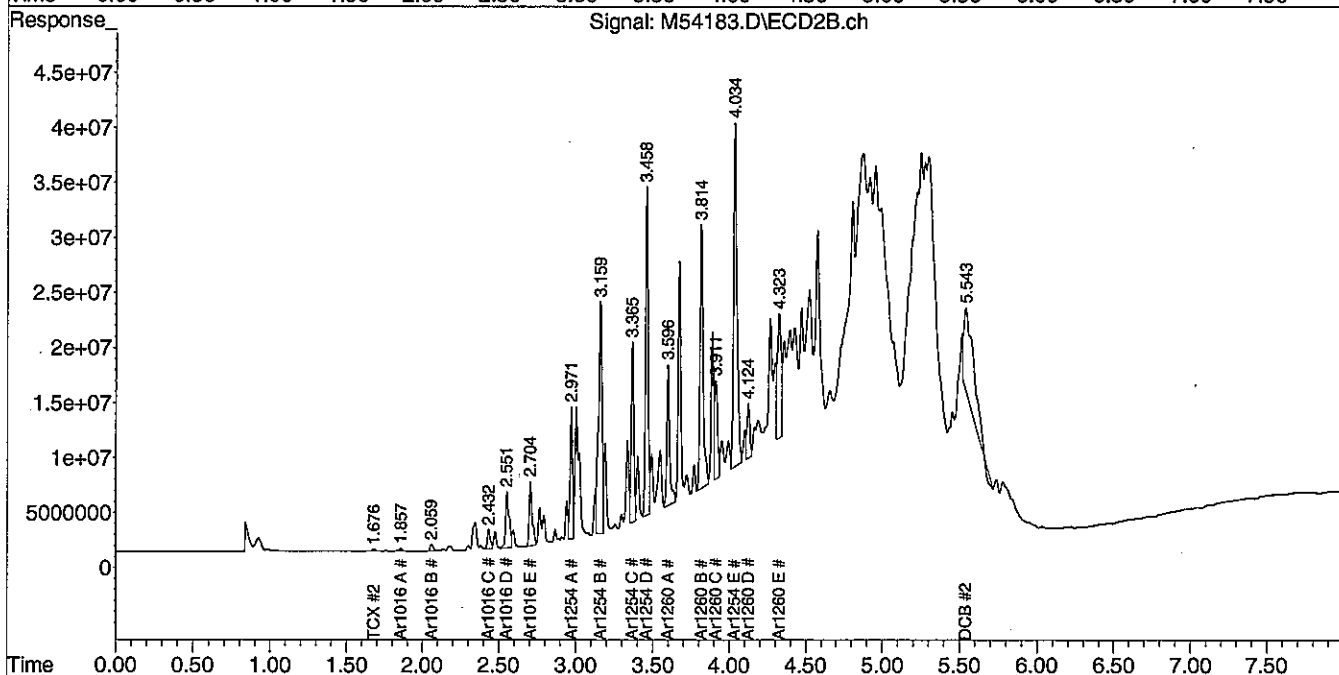
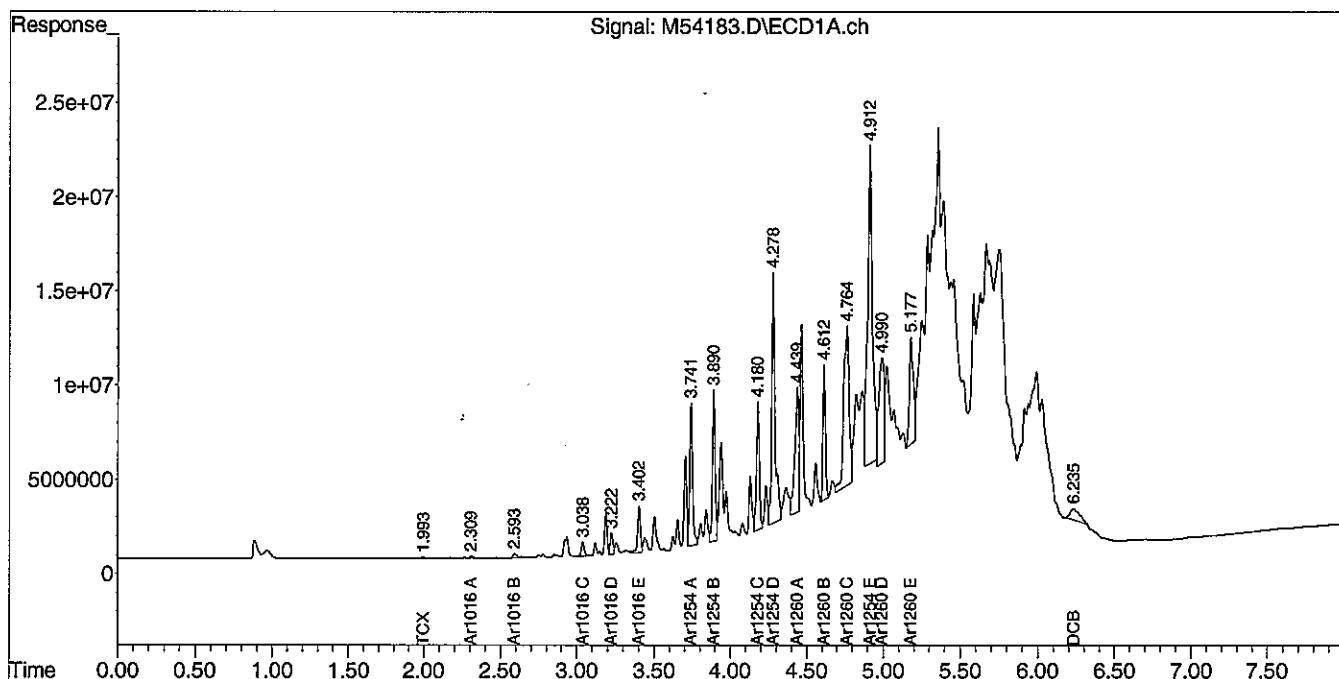
\* Values outside QC limits

Comments: \_\_\_\_\_

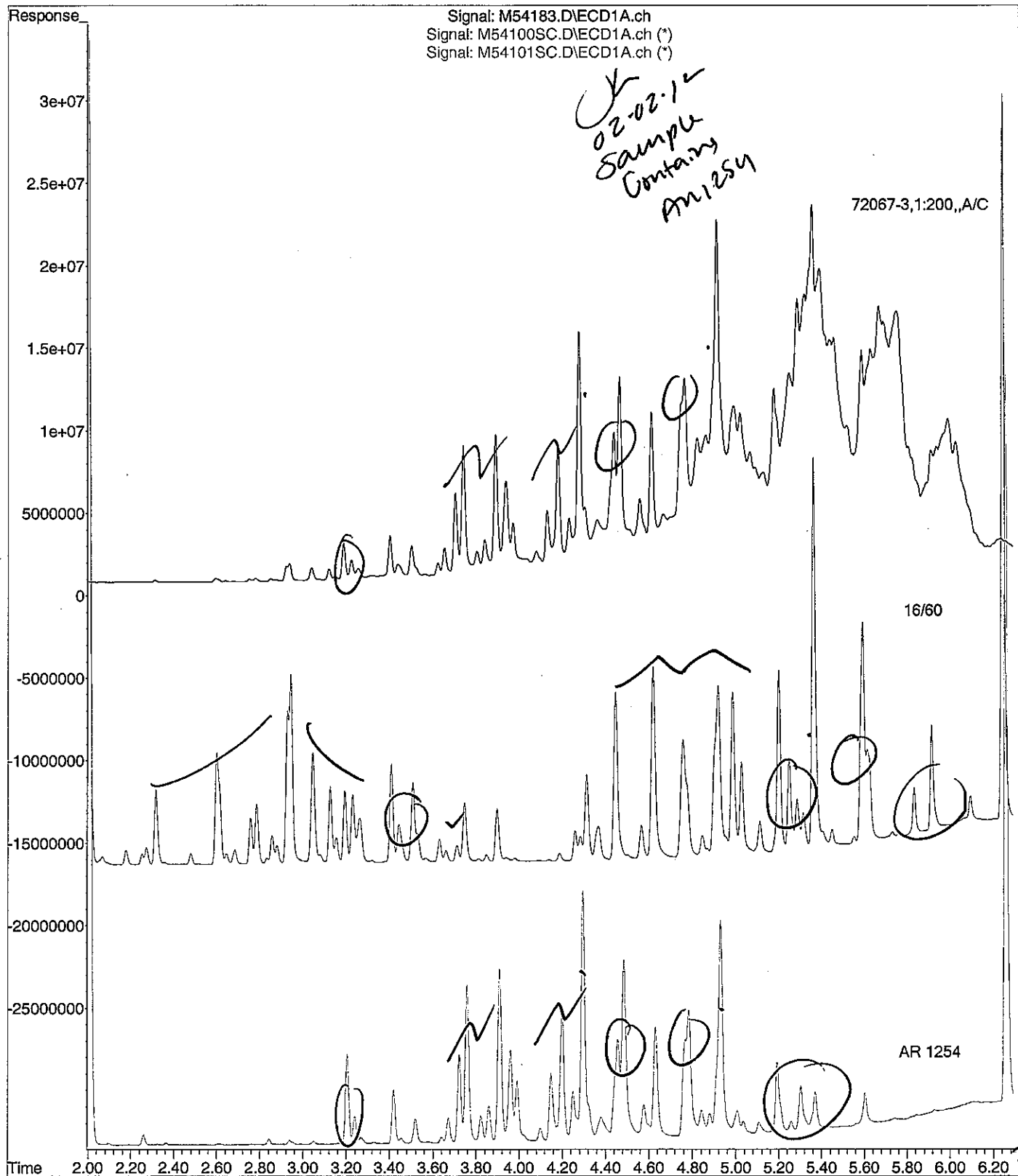
Data Path : C:\msdchem\1\DATA\013112-M\  
 Data File : M54183.D  
 Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch  
 Acq On : 1 Feb 2012 5:06 am  
 Operator : JK/AR  
 Sample : 72067-3,1:200,A/C  
 Misc : SOIL  
 ALS Vial : 57 Sample Multiplier: 1

Integration File signal 1: events.e  
 Integration File signal 2: events2.e  
 Quant Time: Feb 02 10:33:40 2012  
 Quant Method : C:\msdchem\1\METHODS\PCB012712.M  
 Quant Title : SW-846 METHOD 8082 Aroclor 1016/1260/1254  
 QLast Update : Tue Jan 31 15:55:34 2012  
 Response via : Initial Calibration  
 Integrator: ChemStation

Volume Inj. : 2 uL  
 Signal #1 Phase : STX-CLPPesticides Signal #2 Phase: STX-CLPPesticides  
 Signal #1 Info : 30 m x 0.25mm x 0 Signal #2 Info : 30 m x 0.25mm x 0.25 um



File :C:\msdchem\1\DATA\013112-M\M54183.D  
Operator : JK/AR  
Acquired : 1 Feb 2012 5:06 am using AcqMethod PCB.M  
Instrument : Instrument M  
Sample Name: 72067-3,1:200,A/C  
Misc Info : SOIL  
Vial Number: 57



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**SAMPLE DATA**

**CLIENT SAMPLE ID**

**Project Name:** Peabody Terrace  
**Project Number:** 210980  
**Field Sample ID:** PTZ-CBCQ-21402-2338

**Lab Sample ID:** 72067-4  
**Matrix:** Aqueous  
**Percent Solid:** N/A  
**Dilution Factor:** 1.0  
**Collection Date:** 01/27/12  
**Lab Receipt Date:** 01/27/12  
**Extraction Date:** 02/01/12  
**Analysis Date:** 02/01/12

**PCB ANALYTICAL RESULTS**

COMPOUND	Quantitation Limit $\mu\text{g/L}$	Results $\mu\text{g/L}$
PCB-1016	0.2	U
PCB-1221	0.2	U
PCB-1232	0.2	U
PCB-1242	0.2	U
PCB-1248	0.2	U
PCB-1254	0.2	U
PCB-1260	0.2	U
PCB-1262	0.2	U
PCB-1268	0.2	U
<b><u>Surrogate Standard Recovery</u></b>		
2,4,5,6-Tetrachloro-m-xylene	77	%
Decachlorobiphenyl	69	%
U=Undetected J=Estimated E=Exceeds Calibration Range B=Detected in Blank		

METHODOLOGY: Sample analysis conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 8082.

COMMENTS:

PCB EXT Report

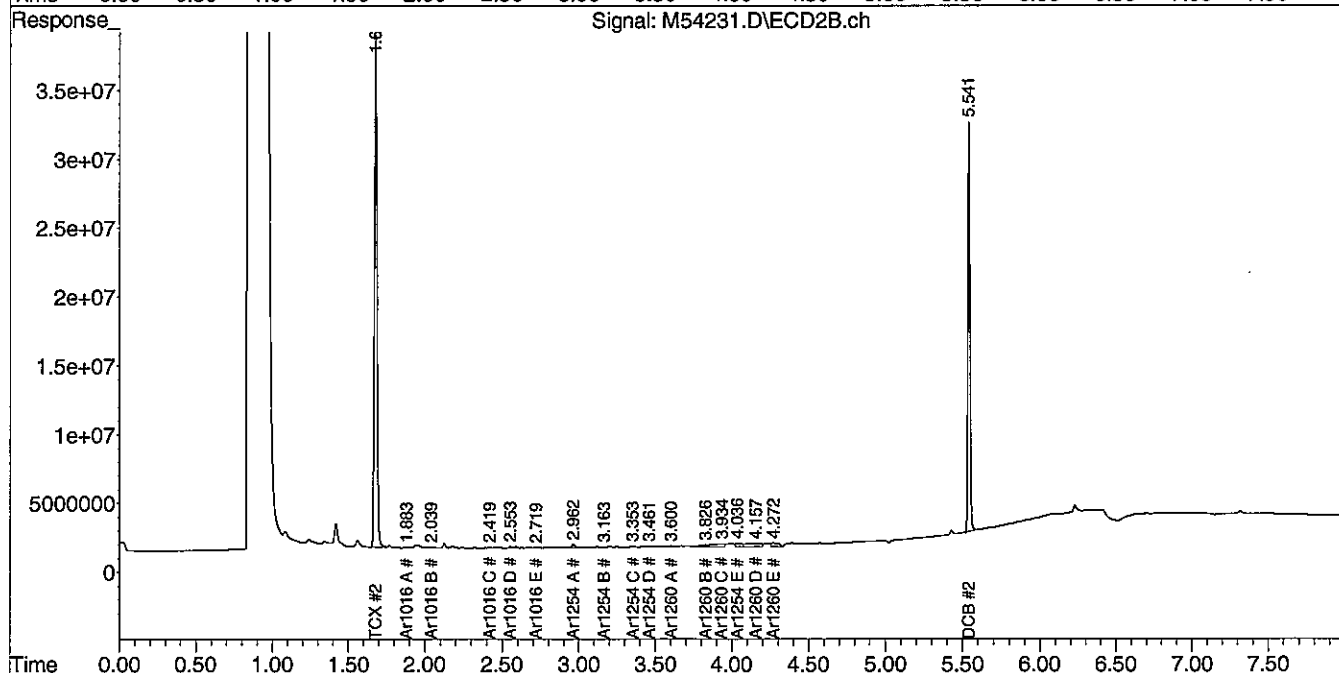
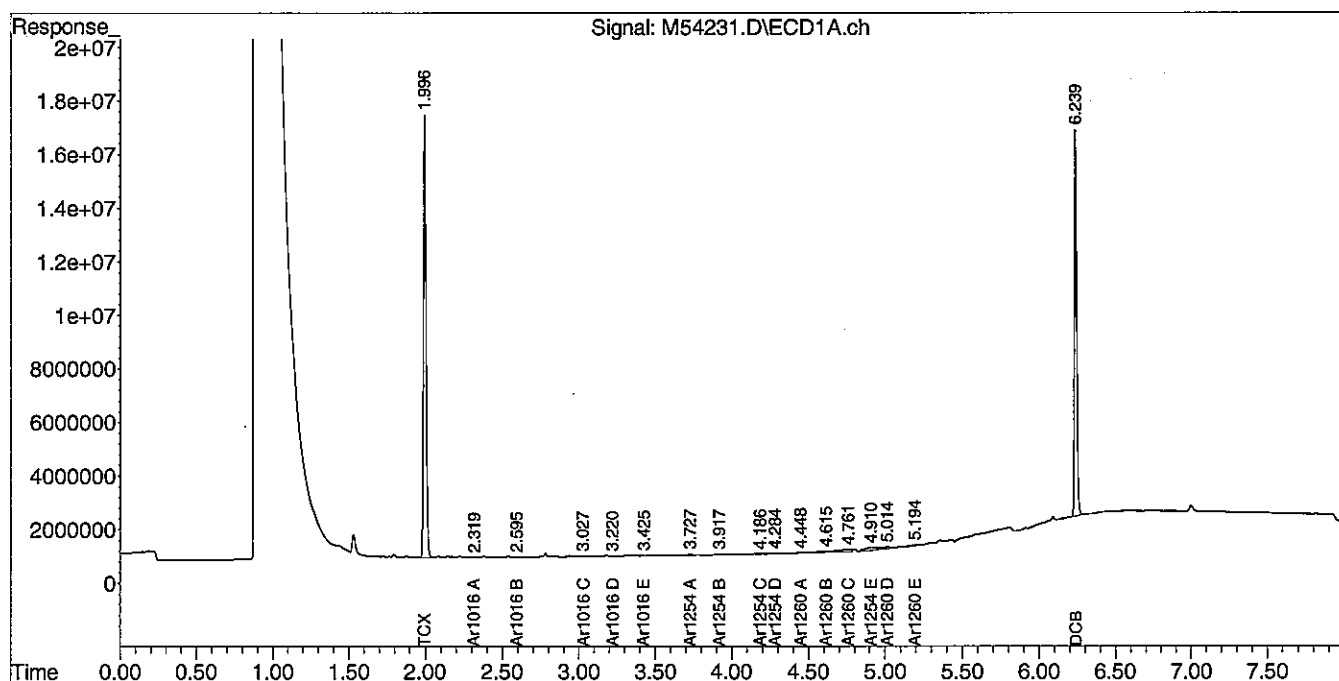
Authorized signature



Data Path : C:\msdchem\1\DATA\020112-M\  
 Data File : M54231.D  
 Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch  
 Acq On : 1 Feb 2012 5:00 pm  
 Operator : JK  
 Sample : 72067-4  
 Misc :  
 ALS Vial : 10 Sample Multiplier: 1

Integration File signal 1: events.e  
 Integration File signal 2: events2.e  
 Quant Time: Feb 02 14:23:24 2012  
 Quant Method : C:\msdchem\1\METHODS\PCB012712.M  
 Quant Title : SW-846 METHOD 8082 Aroclor 1016/1260/1254  
 QLast Update : Tue Jan 31 15:55:34 2012  
 Response via : Initial Calibration  
 Integrator: ChemStation

Volume Inj. : 2 uL  
 Signal #1 Phase : STX-CLPPesticides Signal #2 Phase: STX-CLPPesticides  
 Signal #1 Info : 30 m x 0.25mm x 0 Signal #2 Info : 30 m x 0.25mm x 0.25 um



PCB  
QC FORMS

# PCB SOIL SYSTEM MONITORING COMPOUNDS SUMMARY

Instrument ID: M  
GC Column #1: STX-CLPesticides I  
Column ID: 0.25 mm  
GC Column #2: STX-CLPesticides II  
Column ID: 0.25 mm

SDG: 72067

[illegible]

	Lower Limit	Upper Limit
SMC #1 = TCX	40	130
SMC #2 = DCB	40	130

# Column to be used to flag recovery values outside of QC limits  
\* Values outside QC limits  
D System Monitoring Compound diluted out





Instrument ID: M  
GC Column #1: STX-CLPesticides I  
Column ID: 0.25 mm  
GC Column #2: STX-CLPesticides II  
Column ID: 0.25 mm

[illegible]

# Column to be used to flag recovery values outside of QC limits  
\* Values outside QC limits  
D System Monitoring Compound diluted out

PCB SOIL  
LABORATORY CONTROL SAMPLE/DUPLICATE  
PERCENT RECOVERY

Instrument ID: M

GC Column #1: STX-CLPesticides I

Column ID: 0.25 mm

GC Column #2: STX-CLPesticides II

Column ID: 0.25 mm

SDG: 72067

Non-spiked sample: B013012PSOX,,A/C

Spike: L013012PSOX,,A/C

Spike duplicate: LD013012PSOX,,A/C

	LCS SPIKE	LCSD SPIKE	LOWER	UPPER	RPD	NON-SPIKE	SPIKE	SPIKE		SPIKE DUP		SPIKE DUP			
COMPOUND	ADDED (ug/kg)	ADDED (ug/kg)	LIMIT	LIMIT	LIMIT	RESULT (ug/kg)	RESULT (ug/kg)	% REC	#	RESULT (ug/kg)	% REC	#	RPD	#	
PCB 1016	200	200	65	140	30	0	160	80		159	80		0.5		
PCB 1260	200	200	60	130	30	0	158	79		160	80		0.8		
PCB 1016 #2	200	200	65	140	30	0	172	86		167	83		3.2		
PCB 1260 #2	200	200	60	130	30	0	161	81		162	81		0.6		

# Column to be used to flag recovery and RPD values outside of QC limits

\* Values outside QC limits

LCS/LCSD spike added values have been weight adjusted.

Non-spike result of "0" used in place of "U" to allow calculation of spike recovery.

Comments: \_\_\_\_\_  
\_\_\_\_\_

PCB SOIL  
LABORATORY CONTROL SAMPLE/DUPLICATE  
PERCENT RECOVERY

Instrument ID: M

GC Column #1: STX-CLPesticides I

Column ID: 0.25 mm

GC Column #2: STX-CLPesticides II

Column ID: 0.25 mm

SDG: 72067

Non-spiked sample: B013012PSOX

Spike: L013012PSOX

Spike duplicate: LD013012PSOX

COMPOUND	LCS SPIKE ADDED (ug/kg)	LCSD SPIKE ADDED (ug/kg)	LOWER LIMIT	UPPER LIMIT	RPD LIMIT	NON-SPIKE RESULT (ug/kg)	SPIKE RESULT (ug/kg)	SPIKE % REC	SPIKE #	SPIKE DUP RESULT (ug/kg)	SPIKE DUP % REC	SPIKE DUP #	RPD #
PCB 1016	200	200	65	140	30	0	151	75		145	73		3.6
PCB 1260	200	200	60	130	30	0	152	76		154	77		1.0
PCB 1016 #2	200	200	65	140	30	0	151	75		155	77		2.8
PCB 1260 #2	200	200	60	130	30	0	152	76		144	72		5.7

# Column to be used to flag recovery and RPD values outside of QC limits

\* Values outside QC limits

LCS/LCSD spike added values have been weight adjusted.

Non-spike result of "0" used in place of "U" to allow calculation of spike recovery.

Comments: \_\_\_\_\_  
\_\_\_\_\_

PCB AQUEOUS  
LABORATORY CONTROL/LABORATORY CONTROL DUPLICATE  
PERCENT RECOVERY

Instrument ID: M

GC Column #1: STX-CLPesticides I

Column ID: 0.25 mm

GC Column #2: STX-CLPesticides II

Column ID: 0.25 mm

SDG: 72067

Non-spiked sample: B020112PW

Spike: L020112PWB

Spike duplicate: LD020112PWB

	LCS SPIKE	LCSD SPIKE	LOWER	UPPER	RPD	NON-SPIKE	SPIKE	SPIKE		SPIKE DUP		SPIKE DUP			
COMPOUND	ADDED (ug/L)	ADDED (ug/L)	LIMIT	LIMIT	LIMIT	RESULT (ug/L)	RESULT (ug/L)	% REC	#	RESULT (ug/L)	% REC	#	RPD	#	
PCB 1016	2.0	2.0	79	113	25	0.00	1.67	84		1.627	81		2.8		
PCB 1260	2.0	2.0	58	115	25	0.00	1.73	87		1.67	84		3.5		
PCB 1016 #2	2.0	2.0	81	112	25	0.00	1.69	84		1.69	85		0.3		
PCB 1260 #2	2.0	2.0	54	123	25	0.00	1.87	93		1.73	87		7.5		

# Column to be used to flag recovery and RPD values outside of QC limits

\* Values outside QC limits

LCS/LCSD spike added values have been volume adjusted.

Non-spiked result of "0" used in place of "U" to allow calculation of spike recovery.

Comments: \_\_\_\_\_  
\_\_\_\_\_

## CHAIN OF CUSTODIES

<b>environmental</b> <b>analyticals</b> Laboratory LLC				165 Commerce Way Suite E Portsmouth, NH 03801 Phone (603) 436-5111 Fax (603) 430-2151				<b>For Analytics Use Only</b> Rev. 4.03/29/08			
Project#: 210980 Proj. Name: Peabody Terrace Company: Woodward & Curran Contact: Amy Wallace Address: 41 Hutchins Drive Portland Maine				Matrix Key: C = Concrete WP = Wipe WW = Wastewater SW = Surface Water GW = Groundwater DW = Drinking Water S = Soil/Sludge O = Oil E = Extract X = Other				Samples were: 1) Shipped or hand-delivered 2) Temp blank °C 1.5 3) Received in good condition <input checked="" type="radio"/> or N 4) pH checked by: N/A 5) Labels checked by: AP 1/27/12			
Phone: 207-774-2112 PO# Sampler (Signature): <i>[Signature]</i> Quote #				Container Key P=plastic G=glass				Received By: <i>[Signature]</i> Date: 1/27/12 Time: 12:15			
Station Identification PTZ-CBC-21402-2335 PTZ-CBCD-21402-2336 PTZ-CBK-21402-2337 PTZ-CBCA-21402-2338				Sample Date 1/27/12 1/27/12 1/27/12 1/27/12				Sample Time 1130 1135 1140 1150			
Analysis PCBs ↓ PCBs				Other HCL H <sub>2</sub> SO <sub>4</sub> HNO <sub>3</sub> H <sub>2</sub> O <sub>2</sub> Unpres				Matrix C 1 G C 1 G C 1 G W 1 G			
pH 7.2067-1 2 3 4				Analytics Sample # 1 2 3 4				Received By: <i>[Signature]</i> Date: 1/27/12 Time: 12:15			
Email Results to: shane@woodward Awallace@ JRussell@				Turnaround Request Standard <input checked="" type="checkbox"/> Priority <input type="checkbox"/> Due Date: Today				Project Requirements: Report Type: <input checked="" type="checkbox"/> MCP <input checked="" type="checkbox"/> Level II <input type="checkbox"/> Level III <input type="checkbox"/> Level IV <input type="checkbox"/> Standard State: <input checked="" type="checkbox"/> NH <input checked="" type="checkbox"/> MA <input type="checkbox"/> ME <input type="checkbox"/> CT <input type="checkbox"/> RI State Standard: (eg. S-1 or GW-1) EDD Required: Y* N G/S Key Type:			
Comments / Instructions: Curran.com PCBs 8082 Soxhlet				Date: 1/27/12 Time: 12:15				Date: 1/27/12 Time: 12:15			

ANALYTICS SAMPLE RECEIPT CHECKLIST

AEL LAB#: 72067  
 CLIENT: WUOARD + CURRAN  
 PROJECT: Peabody Terrace

COOLER NUMBER: 65  
 NUMBER OF COOLERS: 1

**A: PRELIMINARY EXAMINATION:**

1. Cooler received by (initials): CP DATE COOLER RECEIVED/OPENED: 1/27/12
2. Circle one: Hand delivered (if so, skip 3) Shipped
3. Did cooler come with a shipping slip? Y NA
- 3a. Enter carrier name and airbill number here: \_\_\_\_\_
4. Were custody seals on the outside of cooler? Y NA  
 How many & where: \_\_\_\_\_ Seal Date: \_\_\_\_\_ Seal Name: \_\_\_\_\_
5. Did the custody seals arrive unbroken and intact upon arrival? Y NA
6. COC#: \_\_\_\_\_
7. Were Custody papers filled out properly (ink, signed, legible, project information etc)? Y N
8. Were custody papers sealed in a plastic bag? Y N
9. Did you sign the COC in the appropriate place? Y N
10. Was enough ice used to chill the cooler? Y N Temp. of cooler: 1.5°C

**B. Log-In:** Date samples were logged in: 1/27/12

By: [Signature]

11. Were all bottles sealed in separate plastic bags? Y N
12. Did all bottles arrive unbroken and were labels in good condition? Y N
13. Were all bottle labels complete (ID, Date, time, etc.)? Y N
14. Did all bottle labels agree with custody papers? Y N
15. Were the correct containers used for the tests indicated: Y N
16. Were samples received at the correct pH? Y N
17. Was sufficient amount of sample sent for the tests indicated? Y N
18. Were all samples submitted within holding time? Y N
19. Were bubbles absent in VOA samples? Y NA

If NO, List Sample ID's, Lab #s, and the size of the bubble(s): \_\_\_\_\_

\*When bubbles are present in VOA samples they are labelled from smallest (or no bubbles) to largest. Lab to analyze VOA samples with no bubbles or smallest bubbles first

20. Laboratory labeling verified by (initials): CP Date: 1/27/12



## **APPENDIX C: DATA VALIDATION SUMMARIES**

## PEABODY TERRACE - PROJECT SUMMARY

**Analytics Environmental Laboratory Job Numbers: 71769, 71823, 71835, & 71870**

**A modified Tier II validation was performed on the data. The criteria detailed below were used to qualify the data. Raw data were not used to verify the results reported by the laboratory.**

Samples were received at 1.3, 2.1, 3, 3.4, and 22.5 degrees Celsius. Although some samples were received at less than 2.0 degrees Celsius that were not frozen and no qualifications will be applied. Some samples were received above 6.0 degrees Celsius. The samples were collected the same day they were submitted to the laboratory. No qualifications will be applied.

### **PCBs:**

All polychlorinated biphenyl compound (PCB) samples were extracted and analyzed within technical holding times. No qualifications will be applied.

All PCB surrogates met acceptance criteria or were diluted out with one exception. Tetrachloro-m-xylene (TCX) recovery on column 1 in sample PTD-CBK-DC01-2016 (71870-2) could not be calculated due to matrix interference. No qualifications will be applied.

The PCB method blanks were non-detect (ND) for all target analytes. No qualifications will be applied.

No PCB field blank samples were submitted with these analytical packages. No qualifications will be applied.

The PCB matrix spike/matrix spike duplicate (MS/MSD) performed on sample PTD-CBK-W-1975 (71769-7) met acceptance criteria. No qualifications will be applied.

The PCB laboratory control sample (LCS)/laboratory control sample duplicate (LCSD) met acceptance criteria. No qualifications will be applied.

No PCB field duplicate samples were submitted with these analytical packages. No qualifications will be applied.

The relative percent difference (RPD) between the column results for all detected PCBs met acceptance criteria. No qualifications will be applied.

Some samples were analyzed at dilutions due to the high concentration of PCBs present in the samples and/or due to sample matrix. Elevated quantitation limits are reported in these samples as a result of the dilutions performed.

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81 Meaderboro Road  
New Durham, NH 03855

Gloria J. Switalski:  
President



Date:

1/19/2012

## PEABODY TERRACE - PROJECT SUMMARY

**Analytics Environmental Laboratory Job Number: 71978**

**A modified Tier II validation was performed on the data. The criteria detailed below were used to qualify the data. Raw data were not used to verify the results reported by the laboratory.**

Samples were received at 4.7 degrees Celsius. No qualifications will be applied.

### PCBs:

All polychlorinated biphenyl compound (PCB) samples were extracted and analyzed within technical holding times. No qualifications will be applied.

All PCB surrogates met acceptance criteria or were diluted out with the exception that no surrogates were recovered in samples PTD-CWK-632-2032 (71978-3) and PTZ-CWK-121-2039 (71978-9). According to the laboratory narrative, surrogates were not added to these samples due to a laboratory oversight. However, since no surrogates were recovered, all non-detected results in samples PTD-CWK-632-2032 (71978-3) and PTZ-CWK-121-2039 (71978-9) were rejected (R).

The PCB method blanks were non-detect (ND) for all target analytes with one exception. The re-analysis of method blank B011112PSOX had a detection for PCB-1254 (50 µg/kg) above the quantitation limit. Since the concentration in the associated samples was greater than the blank action concentration, no qualifications will be applied.

PCB field blank sample PTZ-CWKQ-121-2047 (71978-15) was ND for all target analytes with the exception of PCB-1254 (1.0 µg/wipe). The PCB-1254 results in samples PTD-CWW-632-2035 (71978-6), PTZ-CWK-121-2038 (71978-8), and PTZ-CWW-121-2043 (71978-13) will be qualified as undetected (U) due to field blank action.

No PCB matrix spike/matrix spike duplicate (MS/MSD) was performed on a sample from this analytical package. No qualifications will be applied.

The PCB laboratory control sample (LCS)/laboratory control sample duplicate (LCSD) met acceptance criteria with the following exceptions:

LCS/LCSD ID	PCB-1016 (%) LCS/LCSD/LCS/LCSD	PCB-1260 LCS/LCSD/LCS/LCSD	QUALIFIER
L/LD011112PSOX	57/OK/59/OK (65%-140%)	OK/OK/OK/OK	UJ, PCB-1016 in samples -I and -11

PCB field duplicate samples PTD-CWT-632-2033 (71978-4)/PTD-CWTD-632-2034 (71978-5) met acceptance criteria. No qualifications will be applied. Field duplicate samples PTZ-CWK-121-2039 (71978-9)/PTZ-CWKD-121-2040 (71978-10) could not be evaluated since the results in sample PTZ-CWK-121-2039 (71978-9) were rejected due to no surrogate recoveries. No further qualifications will be applied.

The relative percent difference (RPD) between the column results for all detected PCBs met acceptance criteria. No qualifications will be applied.

Some samples were analyzed at dilutions due to the high concentration of PCBs present in the samples and/or due to sample matrix. Elevated quantitation limits are reported in these samples as a result of the dilutions performed.

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Gloria J. Switalski:  
President



Date: 2/6/2012

## PEABODY TERRACE - PROJECT SUMMARY

Analytics Environmental Laboratory Job Number: 72004

A modified Tier II validation was performed on the data. The criteria detailed below were used to qualify the data. Raw data were not used to verify the results reported by the laboratory.

Samples were received at 3.8 degrees Celsius. No qualifications will be applied.

### PCBs:

All polychlorinated biphenyl compound (PCB) samples were extracted and analyzed within technical holding times. No qualifications will be applied.

All PCB surrogates met acceptance criteria or were diluted out. No qualifications will be applied.

The PCB method blanks were non-detect (ND) for all target analytes. No qualifications will be applied.

PCB field blank sample PTD-CBKQ-W-2326 (72004-8) was ND for all target analytes. No qualifications will be applied.

No PCB matrix spike/matrix spike duplicate (MS/MSD) was performed on a sample from this analytical package. No qualifications will be applied.

The PCB laboratory control sample (LCS)/laboratory control sample duplicate (LCSD) met acceptance criteria. No qualifications will be applied.

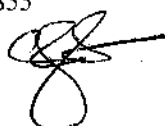
PCB field duplicate samples PTD-CBK-922-2320 (72004-5)/PTD-CBKD-922-2321 (72004-6) met relative percent difference (RPD) acceptance criteria (<50%) with the exception of PCB-1254 (66%). The detected PCB-1254 results in all samples will be estimated (J) due to high field duplicate RPD.

The RPD between the column results for all detected PCBs met acceptance criteria. No qualifications will be applied.

Some samples were analyzed at dilutions due to the high concentration of PCBs present in the samples and/or due to sample matrix. Elevated quantitation limits are reported in these samples as a result of the dilutions performed.

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Gloria J. Switalski:  
President



Date:

2/6/2012

## PEABODY TERRACE - PROJECT SUMMARY

**Analytics Environmental Laboratory Job Number: 72034**

**A modified Tier II validation was performed on the data. The criteria detailed below were used to qualify the data. Raw data were not used to verify the results reported by the laboratory.**

Samples were received at 2.3 degrees Celsius. No qualifications will be applied.

### **PCBs:**

All polychlorinated biphenyl compound (PCB) samples were extracted and analyzed within technical holding times. No qualifications will be applied.

All PCB surrogates met acceptance criteria. No qualifications will be applied.

The PCB method blanks were non-detect (ND) for all target analytes. No qualifications will be applied.

PCB field blank sample PTZ-CWKQ-121-2330 (72034-2) was ND for all target analytes. No qualifications will be applied.

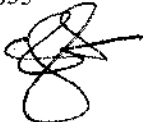
No PCB matrix spike/matrix spike duplicate (MS/MSD) was performed on a sample from this analytical package. No qualifications will be applied.

The PCB laboratory control sample (LCS)/laboratory control sample duplicate (LCSD) met acceptance criteria. No qualifications will be applied.

No PCB field duplicate samples were submitted with this analytical package. No qualifications will be applied.

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Gloria J. Switalski:  
President



Date:

2/6/2012

## PEABODY TERRACE - PROJECT SUMMARY

**Analytics Environmental Laboratory Job Number: 72067**

**A modified Tier II validation was performed on the data. The criteria detailed below were used to qualify the data. Raw data were not used to verify the results reported by the laboratory.**

Samples were received at 1.5 degrees Celsius. Although the temperature was less than 2.0 degrees Celsius, the samples were not frozen and no qualifications will be applied.

### **PCBs:**

All polychlorinated biphenyl compound (PCB) samples were extracted and analyzed within technical holding times. No qualifications will be applied.

All PCB surrogates met acceptance criteria or were diluted out. No qualifications will be applied.

The PCB method blanks were non-detect (ND) for all target analytes. No qualifications will be applied.

PCB field blank sample PTZ-CBCQ-21402-2338 (72067-4) was ND for all target analytes. No qualifications will be applied.

No PCB matrix spike/matrix spike duplicate (MS/MSD) was performed on a sample from this analytical package. No qualifications will be applied.

The PCB laboratory control sample (LCS)/laboratory control sample duplicate (LCSD) met acceptance criteria. No qualifications will be applied.

PCB field duplicate samples PTZ-CBC-21402-2335 (72067-1)/PTZ-CBCD-21402-2336 (72067-2) met relative percent difference (RPD) acceptance criteria. No qualifications will be applied.

The RPD between the column results for all detected PCBs met acceptance criteria. No qualifications will be applied.

Some samples were analyzed at dilutions due to the high concentration of PCBs present in the samples and/or due to sample matrix. Elevated quantitation limits are reported in these samples as a result of the dilutions performed.

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Gloria J. Switalski:  
President



Date:

2/6/2012

## PEABODY TERRACE - PROJECT SUMMARY

Alpha Analytical, Inc. Job Number: L1200626

A modified Tier II validation was performed on the data. The criteria detailed below were used to qualify the data. Raw data were not used to verify the results reported by the laboratory.

Samples were received at 8.5 degrees Celsius. Since these were air samples, no qualifications will be applied.

### PCBs:

All polychlorinated biphenyl (PCB) homolog samples were extracted and analyzed within technical holding times. No qualifications will be applied.

All PCB homolog surrogates met acceptance criteria (50%-125%) with the following exceptions. C13-BZ#19-C13 (10%) and C18-BZ#202-C13 (30%) were recovered below acceptance limits in sample PTZ-CAR-121-2045 (L1200626-2). All non-detected results in sample PTZ-CAR-121-2045 (L1200626-2) will be estimated (UJ) due to low surrogate recoveries.

The PCB homolog method blanks were non-detect (ND) for all target analytes with the exception of heptachlorobiphenyls (12.4 ng/cart) and octachlorobiphenyls (20.8 ng/cart). Since these homologs were not detected in the associated samples, no qualifications will be applied.

No PCB homolog field blank samples were submitted with this analytical package. No qualifications will be applied.

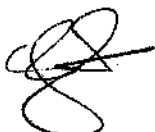
No PCB homolog matrix spike/matrix spike duplicate (MS/MSD) was performed on a sample from this analytical package since these were air samples. No qualifications will be applied.

The PCB homolog laboratory control sample (LCS) met acceptance criteria. No qualifications will be applied.

No PCB homolog field duplicate samples were submitted with this analytical package. No qualifications will be applied.

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President



Date:

2/6/2012

**APPENDIX D: PCB REMEDIATION PLAN MODIFICATION AND  
POST ABATEMENT INTERIOR MONITORING PLAN  
INTERIOR CAULKING – RESIDENTIAL UNITS**



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## **PCB REMEDIATION PLAN MODIFICATION AND POST ABATEMENT INTERIOR MONITORING PLAN INTERIOR CAULKING – RESIDENTIAL UNITS**

On behalf of the President and Fellows of Harvard College (Harvard), Woodard & Curran has prepared this Modification Request to the Notification<sup>1</sup> and Post Abatement Interior Monitoring Plan for interior surfaces in accordance with Conditions 17 and 13(c)(ii)(1), respectively, of the United States Environmental Protection Agency's (EPA) April 15, 2010 Risk-Based PCB Cleanup and Disposal Approval under 40 CFR 761.61(c) and 761.79(h) (the Approval) for the Peabody Terrace Housing Complex in Cambridge, Massachusetts (the site).

This modification request has been prepared for a minor refinement to the secondary barrier detail of the proposed remediation associated with the interior caulking removal and replacement within the residential units. This submittal also presents a post-caulk abatement monitoring plan as required per the Approval for interior surfaces.

The remediation plan referenced in the Notification detailed a removal and secondary barrier approach for the interior caulking. As part of this process, pilot testing activities and mock-ups were completed for secondary barrier options, including barriers that would be installed beneath the new caulking as well as those that would be installed over the new caulking. As documented in this letter, the test results indicated that following caulk removal, an "internal" or secondary barrier applied prior to the new caulking application was an effective method to meet the project objectives. Further discussion on the pilot testing activities and proposed remediation for the interior caulking is provided in the following sections.

### **Pilot Test**

The goal of the pilot tests was two-fold:

- 1) To determine means and methods for conducting the removal, cleaning, and replacement of interior caulking within the residential units; and
- 2) To assess the performance of the selected method in meeting the cleanup levels.

### **Pilot Test Summary**

Pilot test work was performed in Building A Unit 18-12 on June 15 and 16, 2011, and pilot test work was performed in Building A Unit 20-12 on June 16 and 17, 2011. While the two tests were performed mostly in the same manner, variations on some of the steps were conducted as described throughout this section. The sequence/steps implemented during the pilot tests are outlined below.

- A metal trim was installed over the existing caulking on one window in Unit 18-12 as an exterior "secondary barrier";
- Work area containment and engineering controls were established;
- Existing caulking was removed at select locations;
- The work area within the containment was cleared of any debris and the area was inspected;
- Adjacent metal window frames were decontaminated with isopropyl alcohol in Unit 18-12 and low odor mineral spirits in Unit 20-12, followed by verification metal wipe samples;

---

<sup>1</sup> The Notification consists of the information submitted by Woodard & Curran to satisfy the requirements under 40 CFR 761.61(c), 761.62, and 761.79(h). Primary documents include the February 16, 2010 Building A Plan, the April 6, 2010 Buildings B, C, X Plan, the February 16, 2011 Building E, F, Y Plan, and subsequent modifications, contractor workplans, and other clarifications/certification submittals.

- Devcon 5 Minute Epoxy (a “secondary barrier”) was applied to window joint surfaces within Unit 20-12 followed by epoxy verification wipe samples;
- Work area was cleaned and new caulking was installed around half of each window;
- Containment was broken down and final cleanup inspection was performed; and
- Follow-up wipe samples of new caulking and uncovered epoxy was conducted.

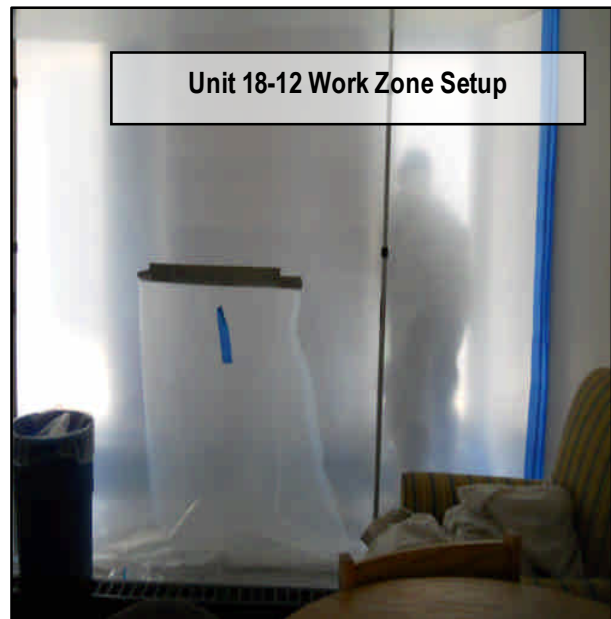
The specific details of each step of the pilot test are provided below.

#### Health & Safety Requirements for Personnel Completing Removal Work

- All personnel utilized proper PPE during work activities. Proper PPE varied depending on the job task, but included disposable gloves, disposable booties, Tyvek suits, hard hats, and eye protection. PPE (gloves, boots, and Tyvek) was donned and doffed inside the containments and not worn within the units outside of the containments.

#### Work Zone Setup

- Pilot test activities were conducted in unoccupied units.
- Within each unit, access to the active work area (i.e., the containment) was controlled through the use of controlled access points (i.e., a poly sheeting door flap posted with appropriate signage).
- Polyethylene sheeting barrier walls were constructed using zip walls and tape to isolate the work zones from other areas within the apartment unit.
- Polyethylene sheeting was installed/sealed to protect floors and any adjacent horizontal surfaces (counters, radiators, etc.) surrounding each work area prior to conducting remediation work in that area.
- Windows and patio/balcony doors were kept closed during active caulking removal.
- Movable objects (curtains, furniture) were removed from the work area prior to establishing the work zone containment and conducting work.
- Non-movable objects (radiator covers) were covered with 6-mil fire retardant polyethylene sheeting and sealed at the edges with tape.



#### Caulking Removal

- Interior caulking and foam backer rods present around the perimeter of the metal window and door frames set into the exterior walls were removed to the maximum extent practical by physical means. Caulking removal was conducted using hand tools designed not to disturb adjacent materials and minimize excessive disturbance to the caulking; no grinding or saw cutting was used on any materials.

- To access all areas for caulking removal, as well as to provide better access for the decontamination of the metal frame and application of the liquid epoxy encapsulant (see below), a portion of the metal frame at certain windows was removed and replaced following caulking removal.
- Prior to caulking removal inspection, the containment area was cleared of debris and dry vacuumed using a High Efficiency Particulate Air (HEPA) filter equipped industrial vacuum conforming to ANSI Z9.2.
- All removed materials were placed into appropriate labeled containers within the work zone to prevent inadvertent migration from the work area and for proper waste disposal. All materials were brought to the project's main waste accumulation area following the project-specific waste transport practices being used for the exterior caulking and materials (outside the building).
- Following removal, the caulking removal areas were visually inspected by the Engineer prior to metal decontamination and containment breakdown to confirm that no visible caulking remnants were observed on the adjacent frame or wall surface.

#### Metal Frame Decontamination

- Metal window and door frames adjacent to removed caulking were decontaminated by surficial cleaning. All portions of the window and door frames were decontaminated, including any portion of the metal frame that was in direct contact with the former caulking, as well as the portion of the frame between the glass pane and the caulking.
- The decontamination was performed by wiping the metal frames with isopropyl alcohol (Unit 18-12) or low odor mineral spirits (Unit 20-12). In each unit and within the containment, the living room windows were opened during the decontamination of the living room metal window frames to increase ventilation.
- After surficial cleaning, one surface wipe sample was collected from each of the five metal frames (two from Unit 18-12 and three from Unit 20-12) to verify that the decontamination process was complete. Wipe samples were collected using hexane-saturated gauze wipes in accordance with the standard wipe test method (40 CFR 761.123). Analytical results from the wipe samples of the metal surfaces were evaluated to determine whether the metal decontamination process was complete as follows:
  - Results from the two isopropyl alcohol decontaminated windows in Unit 18-12 were reported with PCBs at non-detect ( $<0.5 \mu\text{g}/100\text{cm}^2$ ) and  $0.98 \mu\text{g}/100\text{cm}^2$ ;
  - Results from the three low odor mineral spirits decontaminated windows in Unit 20-12 were reported with PCBs at 0.61, 0.85 and  $4.39 \mu\text{g}/100\text{cm}^2$ , with the lowest of these results reported from the southern living room window where the metal frame was removed for more complete caulking removal and decontamination; and
  - All five sample results met the high occupancy cleanup level of  $10 \mu\text{g}/100\text{cm}^2$  (results ranged from non-detect up to  $4.4 \mu\text{g}/100\text{cm}^2$ , with an average result of  $1.4 \mu\text{g}/100\text{cm}^2$ ).

Based on these results, decontaminating the metal window frames using the isopropyl alcohol is proposed. A table summarizing the analytical data is provided as Table 1.

#### Secondary Barrier Installation

As part of the pilot test activities and to assess potential pathways for PCBs from inside the joint to cross-contaminate new caulking (which has occurred to the current 1990s replacement caulking in the units), two types of secondary barrier pilot tests were conducted. One type of barrier was installed on the exterior surface of the caulked joint, and one type of barrier was installed inside the joint after caulking removal and was covered with new caulking, as described in further detail below.

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### *Exterior Trim Installation*

- Several vendors assessed the window configurations and prepared potential designs for an architectural trim piece to be fitted over the window. Given the unique configuration of each window, each window frame would need to be custom fabricated to fit the window. A metal trim attachment to the existing window frame was designed, fabricated, and installed on one window in Unit 18-12. The installed trim prevented direct contact access with the existing window frame components including the caulking. Although the pilot test installed the trim over existing caulking, a full-scale implementation would involve removing and replacing the existing caulking prior to the new trim installation.
- Although this trim would likely meet the performance criteria for the secondary barrier, the use of an integral liquid coating secondary barrier was also tested given the increased labor and costs associated with the fabrication and installation of a custom piece of trim for each window component in all of the units (estimated at 1,650 windows).

### *Integral Liquid Coating Application in Unit 20-12*

- Surfaces within the joints and in direct contact with former caulking were encapsulated with one thick coat of clear, Devcon 5 Minute epoxy gel. The epoxy was applied evenly to the inner returns (sides) of the joint as well as the back of the joint to the maximum extent practicable given its varied and/or uneven surface. Proper epoxy application and coverage was verified by visual inspection. *NOTE:* Application of the Devcon 5 epoxy was easier, faster and more efficient than the Sikagard 62 epoxy that had been used on the exterior surfaces with similar performance criteria. This product also exhibited less odors than the Sika product.
- Following curing, verification surface wipe samples were collected from the encapsulated surfaces to evaluate the effectiveness of the encapsulation. A total of six surface wipe samples were collected from the living room windows (three samples per window) and two surface wipe samples were collected from the bedroom window. Surface wipe samples were collected from each window after the epoxy had time to cure for 15 minutes (living room windows only), 1 hour, and 4 hours. Wipe samples were collected using hexane-saturated gauze wipes in accordance with the standard wipe test method (40 CFR 761.123). Analytical results from the wipe samples of the epoxy were evaluated to determine the effectiveness of the encapsulation over select time intervals (based on a performance criterion of  $\leq 1 \mu\text{g}/100\text{cm}^2$ ).
- The analytical results of the surface wipe samples indicated that the Devcon 5 Minute Epoxy effectively contained the residual concentrations of PCBs on direct contact surfaces within the joints. All eight samples collected were reported with PCB concentrations below the minimum laboratory reporting limit of  $<0.5 \mu\text{g}/100\text{cm}^2$ . A summary of the sample results is presented on Table 2.

### New Caulking Installation

- New latex caulking was installed (over new foam backer rod, if needed) along half the perimeter of each window where caulking was removed. Caulking was not installed along the entire perimeter of the windows to allow for potential future testing of the epoxy encapsulant in Unit 20-12.
- New caulking was installed within the joints of Unit 20-12 windows after the epoxy had cured for:
  - 1 hour (Unit 20-12 northern living room window);
  - 1.5 hours (Unit 20-12 southern living room window); and
  - 4 hours (Unit 20-12 bedroom window) of epoxy cure time.

- New caulking was installed within the joints of one window in Unit 18-12 where no epoxy barrier was installed.
- On July 7, 2011 (20 days after installation) verification surface wipe samples were collected from the new caulking to assess for the presence on the final exposed surface. A total of four surface wipe samples were collected from the areas listed above. A follow-up wipe sample was collected on September 22, 2011 (97 days after installation) from Unit 18-12 (no epoxy secondary barrier). Wipe samples were collected using hexane-saturated gauze wipes in accordance with the standard wipe test method (40 CFR 761.123). Analytical results from the wipe samples of the new caulking were evaluated to determine the effectiveness of the encapsulation (based on a performance criterion of  $\leq 1 \mu\text{g}/100\text{cm}^2$ ).
- All wipe samples were reported with PCB concentrations below the minimum laboratory reporting limit of  $<0.5 \mu\text{g}/100\text{cm}^2$ . A summary of the sample results is presented on Table 3.

#### Work Zone Containment Breakdown

- Following new caulking installation and removal of all waste materials, the work area containments were dismantled.
- The areas were inspected and all dust / debris was gathered and placed in appropriate disposal containers. All poly sheeting and other engineering controls were completely dismantled at the end of the task.
- All dry vacuuming was performed with HEPA filter equipped industrial vacuums conforming to ANSI Z9.2.
- Work zone breakdown was inspected for final clearance.

#### Waste Disposal

- Waste materials (e.g., removed caulking and foam backer rods, spent PPE, etc.) were removed from the containment area prior to the secondary barrier and new caulking installation to minimize the risk of cross-contamination.
- Removed caulking and backer rod waste materials were bagged in appropriately labeled containers and transferred from the work area to the Peabody Terrace main waste accumulation area for disposal as PCB waste  $\geq 50$  ppm. Spent PPE and poly sheeting were segregated for disposal as PCB waste  $> 1$  and  $< 50$  ppm, consistent with the waste segregation and management practices established for exterior remediation work.

### **Proposed Remediation Plan**

The Notification submittals originally indicated that interior caulking remediation would consist of caulking removal, metal frame decontamination, caulking replacement, and the installation of an exterior secondary barrier (e.g., a metal trim piece). However, based on the results of the pilot testing activities, a slight modification to the proposed remediation described in the Notification submittals is proposed. This modification is related to the secondary barrier to be applied following caulking removal. The modification is to apply an integral liquid coating underneath the new caulking (prior to new caulking install) as opposed to an “external” barrier that would have been installed on top of the new caulking. The rationale for this modification is that the liquid coating is more feasible than the external barrier with regard to implementation and costs while still achieving the performance standard of PCBs  $< 1 \mu\text{g}/100\text{cm}^2$  on the final outer surface.

The option to apply a third barrier on top of the caulking (e.g., another liquid coating or architectural trim piece) is being retained as a contingency if PCBs come to be located at levels in excess of the post-abatement monitoring program target levels on the surfaces over time.

The modified interior caulking remediation plan is summarized below:

- Set-up and break-down containments as described above in the pilot test section;
- Remove interior window/door caulking within a contained work area;
- Decontaminate portions of the metal window and door frames in direct contact with the caulking, and collect post-cleaning verification (baseline) surface wipe samples at a frequency of one sample for every five residential units (97 samples), which equates to the following number of samples per building (Building A - 6 samples; Building B/C - 12 samples; Building D - 13 samples; Building E - 13 samples; Building F - 5 samples; Building X - 16 samples; Building Y - 16 samples; and Building Z - 16 samples);
- Install a liquid epoxy secondary barrier within the caulked joint. Following curing, collect a baseline wipe sample at a frequency of one sample per every five residential units (same number of samples per building as described in the bullet above);
- Install new caulking in the joint. Post-abatement monitoring of the new caulking as well as other interior surfaces will be conducted consistent with the Post Abatement Interior Monitoring Plan (see next section); and
- Dispose of all caulking and associated materials as  $\geq 50$  ppm wastes, and PPE and poly sheeting as PCB waste  $< 50$  ppm.

The level of PCBs present in the current interior caulking does not pose an unacceptable risk to tenants as discussed in the Building A risk evaluation (Appendix A of the Building A Plan). As such, the timing of the interior caulking remediation does not require prioritization as an immediate action.

Based on recent discussions with Harvard, the remedial actions will occur on a schedule independent of the façade work outside of each building. The removal and replacement activities will be conducted when a unit becomes vacated at turnover, as performing the work in occupied units is infeasible for several reasons, including:

- A significant amount of space is required to set up containments and mobilize the required equipment, and many units have limited space available (due to furniture or other belongings);
- Occupied units require additional coordination to gain tenant permission for access, whereas a vacated unit will be continuously available throughout each phase of the interior remediation (setup and breakdown, caulking removal, decontamination, epoxy installation, caulking installation, and various phases of verification sampling); and
- Air monitoring performed during pilot test activities indicated that the use of new poly sheeting, decontamination solvents, and epoxy each generated odors that occupants may find objectionable if they occupied the unit during the work.

To accommodate this additional work, Harvard has added time to the normal turnover preparation process / timing for the units. Typically, larger blocks of units are “turned-over” during set times throughout the year (based on semester schedules and/or leasing arrangements). Given this schedule, the proposed interior remediation will be incorporated into this “turn-over” schedule. It is anticipated that the proposed remediation of all units would be completed in phases over a 5 year timeframe.

## Post Abatement Interior Monitoring Plan

As required by Condition 13(c)(ii)(1) of the Approval, this Post-Abatement Interior Monitoring Plan has been prepared to present the proposed plan for post abatement indoor surface and indoor air sampling.

This post-abatement interior sampling plan will be implemented in a phased approach following the remediation work; in other words, the interior sampling will begin only when all exterior façade work (including caulking removal, concrete repairs, and encapsulation) and all interior caulking remediation work (including caulking removal, decontamination, and barrier installation) has been completed at an entire building.

### Objective and Methods

The objective of the post-abatement interior sampling activities is to demonstrate that the PCB exposure potential within residential units has been eliminated or reduced to an acceptable level. To meet this objective, the proposed interior sampling activities include indoor air sampling and wipe sampling of interior surfaces in select units. Air samples will be collected in accordance with EPA Method TO-10A and analyzed for PCB homologs by Method 8270C. Wipe samples will be collected using hexane-preserved wipes by the standard wipe test method specified in 40 CFR 761.123, with samples extracted by Method 3540C and analyzed by Method 8082.

### Proposed Sampling Activities – Initial Round

As indicated above in the Proposed Remediation Plan, baseline surface wipe samples will be collected from decontaminated metal window and door frames as well as from the epoxy barrier surface at a frequency of one sample for every five residential units during interior remediation.

The post-abatement sampling plan summarized below is proposed for other interior surfaces (away from the former caulking) and indoor air, and will be implemented after the exterior façade work and interior remediation work is complete for an entire building:

Sample Media	Post-Abatement Sampling Frequency	Rationale
Indoor air	1 sample per 20 units	Consistency / comparability amongst pre-remediation data set; all pre-remediation results below target return levels.
Interior walls	2 samples from selected unit; 1 sample set per 10 units	A sample set will be collected from the lower portion of the walls (higher probability of direct contact) adjacent to a living room window and a bedroom window (2 samples per selected unit).
Interior floors	2 samples from selected unit; 1 sample set per 10 units	A sample set will be collected from the floor adjacent to a living room window and a bedroom window (2 samples per selected unit).

A summary table presenting the post-abatement interior samples to be collected during this initial round is provided below:

Building	Number of Apartment Units	No. Indoor Air Samples	No. Adjacent Wall Samples	No. Adjacent Floor Samples
A	30	2	6	6
B/C	61	3	12	12
D	64	3	12	12
E	65	3	12	12
F	26	2	6	6
X	82	4	16	16
Y	82	4	16	16
Z	82	4	16	16
<b>Total</b>	<b>492</b>	<b>25</b>	<b>96</b>	<b>96</b>

#### Action Level Comparisons

In accordance with Approval condition 13(c)(ii)(2), notification to EPA will be made if the wipe sample results are  $> 1$  ug/100cm<sup>2</sup> and the indoor air sample results are  $> 50$  ng/m<sup>3</sup>.

It is proposed that the target levels for additional corrective measures be set at the following:

- *Surfaces:*  $> 10$  ug/100cm<sup>2</sup>, which is consistent with EPA's high occupancy area cleanup level for non-porous surfaces set forth in 40 CFR 761.61; NOTE: all pre-remediation wipe samples collected to date (59 samples) from interior surfaces (non-PCB containing caulking) have been below this target level with one exception (13.9 ug/100cm<sup>2</sup> at a metal balcony door frame).
- *Indoor Air:*  $> 140$  to 233 ng/m<sup>3</sup>, which is the risk-based action level presented in the Notification (refer to Appendix A of the PCB Remediation Plan for Building A, February 2010). These levels were developed for full-time residents over a 3 year to 5 year exposure duration, which is typical for a Peabody Terrace resident. NOTE: all pre-remediation representative indoor air samples collected to date have been below this range (19 samples).

Any exceedances of the action levels described above will be discussed with EPA and addressed by incorporation into the long term monitoring and maintenance implementation plan (MMIP) developed to monitor the long-term effectiveness of the remedy.

#### Reporting and Schedule

The post-abatement interior sampling will be implemented as a one-time event at each building after the completion of all exterior façade and interior remediation work at that building. Following completion, the results will be reported to EPA and be used to develop the subsequent interior monitoring activities that will be conducted as part of the long term maintenance and monitoring activities at the site.

Enclosures: Table 1 – Wipe Results – Metal Window & Door Frames  
 Table 2 – Wipe Results - Epoxy  
 Table 3 – Wipe Results - Caulking



**Table D-1**  
**Interior Remediation Pilot Test Verification Data - Metal Window & Door Frame Wipes**  
**Peabody Terrace, Cambridge, Massachusetts**

Metal Wipe Sample ID	Joint Orientation	Façade	Sample Description	Sample Date	Reporting Limit	Total PCBs
<b>Decontaminated Metal Window and Door Frames - Former Direct Contact with Caulking (Isopropyl Alcohol)</b>						
PTA-VWM-1812-1549	Vertical	West	Unit 1812, northern living room window, southern vertical joint, 5.5 feet above ground surface	06/16/11	0.5	ND
PTA-VWM-1812-1550	Vertical	East	Unit 1812, bedroom window, southern vertical joint, 5 feet above ground surface	06/16/11	0.5	0.98
<b>Decontaminated Metal Window and Door Frames - Former Direct Contact with Caulking (Low odor Mineral Spirit)</b>						
PTA-VWM-2012-1551	Vertical	East	Unit 2012, bedroom window, southern vertical joint, 5.5 feet above ground surface	06/17/11	0.5	4.39
PTA-VWM-2012-1552	Horizontal	West	Unit 2012, northern living room window, upper horizontal joint, 0 feet north of southern vertical window frame	06/17/11	0.5	0.85
PTA-VWM-2012-1554	Vertical	West	Unit 2012, southern living room window, northern joint, 5.5 feet above ground surface, sample collected after frame removal and decon	06/17/11	0.5	0.61

Notes:

1. All samples were extracted by USEPA Method 3540C (Soxhlet) and analyzed by USEPA Method 8082.
2. All sample results are presented in micrograms per 100 square centimeters (ug/100cm<sup>2</sup>).
3. ND = Not detected above laboratory's minimum reporting limit, as indicated.
4. No results were qualified as estimated or rejected based on data validation.
5. Results are compared to cleanup level of 10 ug/100cm<sup>2</sup>.

**Table D-2**  
**Interior Remediation Pilot Test - Direct Contact Epoxy Wipes**  
**Peabody Terrace, Cambridge, Massachusetts**

Epoxy Wipe Sample ID	Joint Orientation	Façade	Epoxy Cure Time (hours)	Sample Description	Sample Date	Reporting Limit	Total PCBs
<b>Unit 20-12 Bedroom Window</b>							
PTA-VWE-2012-1553	Vertical	East	1	Unit 2012, bedroom window, southern vertical joint, 0 feet below upper horizontal window frame	06/17/11	0.5	ND
PTA-VWE-2012-1559	Vertical	East	4	Unit 2012, bedroom window, southern vertical joint, 0 feet above lower horizontal window frame	06/17/11	0.5	ND
<b>Unit 20-12 Northern Living Room Window</b>							
PTA-VWE-2012-1555	Vertical	West	0.25	Unit 2012, northern living room window, northern vertical joint, 1.5 feet above ground surface	06/17/11	0.5	ND
PTA-VWE-2012-1557	Horizontal	West	1	Unit 2012, northern living room window, upper horizontal joint, 0 feet north of southern vertical window frame	06/17/11	0.5	ND
PTA-VWE-2012-1560	Vertical	West	4	Unit 2012, northern living room window, northern vertical joint, 0 feet below upper horizontal window frame	06/17/11	0.5	ND
<b>Unit 20-12 Southern Living Room Window</b>							
PTA-VWE-2012-1556	Horizontal	West	0.25	Unit 2012, southern living room window, lower horizontal joint, 0 feet south of northern vertical window frame	06/17/11	0.5	0.35
PTA-VWE-2012-1558	Vertical	West	1	Unit 2012, southern living room window, southern vertical joint, 0 feet above lower horizontal window frame	06/17/11	0.5	ND
PTA-VWE-2012-1561	Horizontal	West	4	Unit 2012, southern living room window, upper horizontal joint, 0 feet south of northern vertical window frame	06/17/11	0.5	ND

**Notes:**

1. All samples were extracted by USEPA Method 3540C (Soxhlet) and analyzed by USEPA Method 8082.
2. Sample results are presented in micrograms per 100 square centimeters (ug/100cm<sup>2</sup>) for wipe samples.
3. ND = Not detected above laboratory's minimum reporting limit, as indicated.
4. No results were qualified as estimated or rejected based on data validation.
5. Samples were collected from joints after encapsulation with one coat of Devcon 5 Minute epoxy.

**Table D-3**  
**Interior Remediation Pilot Test - Direct Contact Caulking Wipes**  
**Peabody Terrace, Cambridge, Massachusetts**

Caulking Wipe Sample ID	Joint Orientation	Façade	Sample Description	Sample Date	Reporting Limit	Total PCBs
<b>Unit 18-12 (No Secondary Barrier)</b>						
PTA-VWK-1812-1565	Vertical	West	Unit 18-12, northern living room window, southern vertical joint, 0 feet above lower horizontal window frame	07/07/11	0.5	ND
PTA-VWK-1812-1871	Horizontal & Vertical	West	Unit 18-12, northern living room window, southernmost upper horizontal and vertical joints	09/22/11	0.5	ND
<b>Unit 20-12 (Secondary Barrier - 1 Coat of Devcon 5 Minute Epoxy)</b>						
PTA-VWK-2012-1566	Vertical	West	Unit 2012, northern living room window, southern vertical joint, 0 feet below upper horizontal joint	07/07/11	0.5	ND
PTA-VWK-2012-1567	Horizontal	West	Unit 2012, southern living room window, upper horizontal joint, 0 feet north of southern vertical window frame	07/07/11	0.5	ND
PTA-VWK-2012-1568	Horizontal	East	Unit 2012, bedroom window, upper horizontal joint, 0 feet south of northern vertical window frame	07/07/11	0.5	ND

**Notes:**

1. All samples were extracted by USEPA Method 3540C (Soxhlet) and analyzed by USEPA Method 8082.
2. Sample results are presented in micrograms per 100 square centimeters (ug/100cm<sup>2</sup>) for wipe samples.
3. ND = Not detected above laboratory's minimum reporting limit, as indicated.
4. No results were qualified as estimated or rejected based on data validation.